LAKE ILO REFUGE.

I. GENERAL.

A. Weather Conditions.

Precipitation was near normal at Lake Ilo Refuge during the report period. The temperature averaged above normal during September and October. November and the first half of December were below normal while the last of December took another turn and above average temperatures prevailed. It is estimated that 5 inches of snow covers the ground at the end of the period.

Weather data for the past four months are as follows:

Month	Precipitation	Snowfall	Max.Temp.	Min.Temp.
September	1.89	2"	98	26
October	.79	0	78	21
November	•36	7	65	-21
December	•55	6	39	-31
Total	4.09	15" Ext	remes 98	-31

B. Water Conditions.

The water elevation was 11" below spillway crest on September 1 and the ice level on December 31, was 17" below the spillway or a total drop of 6" was recorded. The entire lake was completely frozen over by November 8, which is the earliest freeze-up on record. The date of freeze-up in 1949 was December 5 and that was remembered as an unusual early freeze. The ice was measured on December 1, 1950 and found to be 8" in thickness. A re-check on December 31 revealed the ice to be 16". The end of the period water level was above average.

C. Fires. None.

II. WILDLIFE.

A. Migratory Birds.

Approximately 10,000 ducks were present in the refuge on Sept. 1 and by Oct. 1, the number had increased to 20,000. The peak concentration was reached during the latter part of October and early November. At this time an estimated 60,000 ducks were using the refuge. The total estimate is below the average figure for the past years. Approximately 1,000 Canada, white-fronted and snow geese used the area during fall migration.

The large concentrations of ducks were present in variable numbers until the freeze-up of November 8 which forced the majority of them on south. However, considerable numbers remained several days longer keeping small open water areas free of ice and feeding in nearby fields.

These soon decided that the warmer climate and better feeding was more attractive than the continuation of winter conditions. After we were sure all ducks had left us, approximately 6,000 mallards dropped in for a few days rest on November 20. No ducks were observed after Nov. 25.

Shore bird migration was smaller than in 1949 and probably due to the higher water levels offering less attraction than in former years. Fifty white pelicans could be seen regularly during September and Oct.

B. Upland Game Birds.

The cold late spring resulted in an extremely late nesting season for upland game birds and was held responsible for the late appearance of broods. Early in Sept., the refuge was supporting an estimated 200 pheasants. During early November when the pheasant season was open, a definite influx of birds was noted. At the close of the period, we have a pheasant population of about 350 birds.

Very few sharp-tailed grouse have been seen within or near the refuge. The European Partridge have shown an increase over last year. Observations indicate that approximately 100 "Huns" are present as compared to 30 for the same period of a year ago.

Upland game food appears to be abundant. Heavy snow covering waste grain for long periods will undoubtedly work a hardship on pheasants. The other bud eating species should winter in good condition.

All crops were fair and small grain was considered good. Very little corn matured in this vicinity due to the early frost in August.

C. Big Game Animals.

No big game animals were observed on the refuge during the period. There was a good population of white-tailed and mule deer in the vicinity where more attractive environment was afforded as was evidenced by the good hunting success during the open season.

D. Fur Animals, Predators, Rodents and other Mammals.

In comparison with previous years, the muskrat population is very low. No permits were issued until after the limited "rat" season declared by the State was closed and, therefore, none will be removed this year. Mink signs indicate the population to be similar to 1949, and a permit has been issued to remove an unlimited number. Only a few weasel signs have been seen, but appear to be more than last year. Their numbers are still small. No fox or coyote have been seen during the period. The operation of 1080 stations and plane hunting by Predator and Rodent Control have reduced these animals to the point where very few remain in this area.

The destruction to trees by beaver common one year ago has not

re-occurred. No removal of this rodent is necessary. Skunks and badgers are not present in alarming numbers, but trapping permittees will be encouraged to remove these animals when possible.

E. Predacious Birds, including Crows, Ravens, Magpies.

Golden eagle appeared early in the fall and several have been present in and in the vicinity of the refuge during the report period. Upon a few occasions, these birds have been seen feeding on pheasants. It is believed that some farmers have killed eagles as a protective measure for pheasants. No definite evidence has been obtained, however.

Prairie falcons have been observed, but in numbers below last year. This may be due to the fact that no ducks are attempting to winter on the area this winter.

F. Fish.

Fishing success on Lake Ilo was considered good during the regular season from May 16 to Sept. 16. Success during the winter season of December 1 to March 15 has been very good. The daily catches have been made up of mostly perch with a few crappies. Throughout the year the take of perch have exceeded the yearly average while crappies have dropped off considerably. The year's take of the latter was only approximately 10% of usual catch.

As an example to this winter's fishing success, two anglers were observed near headquarters on December 20. They started fishing at 8:00 A.M. and by 1:00 P.M. had taken 244 perch and one crappie. During favorable weather conditions 20 to 30 cars of fishermen are present on the lake each day.

III. REFUGE DEVELOPMENT-MAINTENANCE

A. Physical Developments.

- 1. Placed small granary 10'x10' on foundation at headquarters and repaired it so as to hold grain. Installed wind braces.
- 2. Hauled refuge share of grain and stored in granary at hqtrs.
- 3. Serviced and performed minor repair on trucks, pickup and other equipment used on Ilo spillway repair tractor, pump & mixer.
- 4. Checked and repaired refuge markers.
- 5. Installed new concrete top on septic tank. Installed tile drain in septic tank to disposal field. Made disposal field for sewer system at headquarters by digging pit 8' x 4' x 16' deep and placing two sets of 2' concrete culverts 11' high in pit and filled around culverts with gravel. This job is 80% completed.
- 6. Lake Ilo spillway repair. Two new walls were built, one on each side of spillway below slope 34 long and 12 ft. high, floor

7º wide, 15" thick and 4 buttresses 16" wide against each wall. Approximately 70 cu. yards of concrete were used on this job.

Work on Spillway itemized:

- 1. 104 cu. yds. of sand and gravel hauled on governmentowned truck a distance of 45 miles from refuge.
- 2. 7,000° of 5/8" steel hauled from Minot, N. Dak. 140 miles.
- 3. 400 sacks of cement hauled from Dunn Center, N.D. 22 mi.
- 4. Concrete mixer and front-end tractor loader from Des Lacs to Lake Ilo and return.
- 5. Moved approximately 100 cu. yds. of dirt with front end tractor loader.
- 6. Pumped water 50 days with 3" centrifugal pump, 10 days with 2" centrifugal pump, an average of 2 hrs. per day.
- 7. Built and placed forms.
- 8. Built shelter to cover walls and heated concrete for 7 days after it was poured.
- 9. Heated sand and gravel before it was poured.
- 10. Hauled form lumber from Dunn Center and returned it.
- 11. Drilled 80 holes in old concrete to place 3/4" dawl pin in. Electric Jack hammer was used.
- 12. Hauled two loads of wood from Des Lacs for heating sand and gravel. Also hauled two loads of coal from local mine for heating.

B. Plantings.

No crops were planted by refuge personnel. Sixty two acres of wheat, corn and barley were planted this season under cooperative agreement. Part of the refuge share was left standing for wildlife food. Three acres barley and two acres of wheat were harvested for refuge emergency wildlife feeding. Refuge wheat averaged 20 bu. and barley 35 bu. per acre.

IV. ECONOMIC USE.

A. Grazing.

Two grazing permits were issued this year.

B. Haying.

Four haying permits were issued to neighboring farmers.

C. Fur Harvest.

A complete report of furs harvested will be included in the Jan.-April, 1951 narrative report.

VI. PUBLIC RELATIONS.

A. Recreational Uses.

The recreational area which is under the management of the Dunn County Park Board was maintained in good order. 1228 trees were planted last spring and they were cultivated several times during the year. They appear to have done well. The public used the area a great deal during the summer months for picnicking and public gatherings. 12,000 wall-eyed pike were planted in Lake Ilo.

B. Fishing.

See Section II F, Fish.

EASEMENT REFUGES - DISTRICT IV

HIDDENWOOD

I. GENERAL.

Water level was above average for this period as a result of ample fall precipitation. Heavy use of the area was apparent from observations made on inspection and waterfowl censusing visits.

II. WILDLIFE.

when the area was visited on October 27, 1950, 500 ducks were still present, the majority of which were mallards. According to local opinion this figure had been much higher and some depredation, although insignificant, occurred. Fair duck hunting was had by local hunters in the vicinity and no trespassing for hunting purposes was reported. More than ample aquatic and upland cover was noted and good food sources for all species present were in abundance.

Muskrat and badger appeared to be the most common of fur-bearers. Considerable digging by the latter was noted and some "rat" house building activity was underway. Minks are reported to be in numbers similar to last year. Two trapping permits were issued to neighboring farmers.

III. PHYSICAL DEVELOPMENTS.

- 1. Migratory waterfowl count.
- 2. Checked and repaired refuge markers.

LAKE PATRICIA

I. GENERAL.

Precipitation received during the period was about normal as was the water level for this area. The boundaries are now well marked by signs of the State Game & Fish Department.

II. WILDLIFE.

A check of the waterfowl using the area was made on October 31. At this time an estimated 20,000 ducks, 90% of which were mallards, were resting on the lake.

III. PHYSICAL DEVELOPMENTS.

None.

LEGION LAKE

I. GENERAL.

This area is located in one of the few sections of North Dakota where below average precipitation was received. On October 27, 1950 the water level was below spillway crest by 3 feet. More extensive re-posting than was accomplished during the short visits is necessary. The entire area is heavily utilized from the farming standpoint down to the waters edge and thus little cover remains.

II. WILDLIFE.

The high population of ducks for most all easements did not hold true for this refuge. Total ducks recorded are as follows: 300 mallards, 100 canvas back, 50 scaup and 100 pintails. No complaints of duck depredation were received or discovered. Hunting success was reported to be poor by local interested sportsmen.

There were no upland game birds observed and few are expected to be using the area under the overgrazed and farmed conditions.

Muskrats signs indicate a very scarce population and very few signs of any other fur-bearer could be discovered. One permit was issued to local farm boys. The harvest of fur on the area is anticipated to be very light.

III. PHYSICAL DEVELOPMENTS.

- 1. Fur-bearing animal, upland birds and migratory waterfowl censusing.
- 2. Limited repair and replacement of boundary markers.
- 3. Discussion of depredation and hunting violations with local farmers and sportsmen.

McLEAN

I. GENERAL.

Precipitation in the form of rain and snowfall was about normal. Water level averaged approximately one foot below spillway crest throughout the four month period. Boundary markers were in good condition needing very little repair work. The Oct. 27, inspection revealed the dam and spillway to be holding up in good condition.

II. WILDLIFE.

The majority of the 300 mallards and 200 pintails present during late Oct. preferred the northern end of the lake where ideal cover was available. One indirect report from a near-by farmer that severe depredation was encountered in at least one area. Considerably more ducks were reported to have used the refuge at other intervals.

Upland game birds were observed to be few and far between. The pheasant population remains low, sharp-tailed grouse about the same and a slight increase for European Partridge.

The fur-bearers here are again not too plentiful; this is especially true for muskrats. One permit has been issued to a neighboring farmer. The take is expected to be small.

III. PHYSICAL DEVELOPMENTS.

- 1. Markers checked and repaired as necessary.
- 2. Periodic inspections and wildlife censusing.
- 3. Discussion on depredation and hunting laws with local farmers and sportsmen.

PRETTY ROCK

I. GENERAL.

Moisture received for the period was about average. Water level was about one foot below spillway crest on Oct. 30. Fair crops were harvested in this locality and some loss was reported from duck's feeding out. Hunting pressure was light and only fair success reported. The usual complaint of mallards staying within the boundaries until after shooting hours was heard from several sportsmen. Boundary markers were in good condition and only minor repair work needed.

II. WILDLIFE.

On October 30, there were an estimated 4500 mallards present on the area. No other species were observed at this time. According to local opinions this number of mallards represented about one half of the total on hand one week earlier. Some minor depredation was reported, but no complaints of severe damage were received.

The ring-necked pheasant was the only representative of upland game species observed. Undoubtedly there are a limited number of sharp-tailed grouse and European partridge using the refuge. The number of pheasants observed and the hunting success reported during the open season indicate the population to be a little above the 1949 figure.

Few signs of muskrat, mink and other fur-bearers were observed. One trapping permit was issued to a farmer's boy who lives on the area. No muskrat will be taken, however, as the State closed all Federal and State Easement refuges to the taking of muskrats during the 1950 thirty day season.

III. PHYSICAL DEVELOPMENTS.

1. Inspection and wildlife censusing.

- 2. Repaired boundary markers.
- 3. Repair to spillway as follows:
 - a. 193 man-hours labor.
 - b. 7 cu. yards sand.
 - c. Rented cement mixer and returned same.
 - d. Hauled lumber and cement for job.
 - e. Filled in washout below spillway.

STEWART LAKE

I. GENERAL.

Precipitation was below normal during the period. The water-level was an estimated two feet below the spillway and the water line approximately 400 yds. from outlet. The low water condition is most satisfactory as the damage to this spillway from former run-offs was not prepared prior to freeze-up. We are hoping for very little over flow this next spring and thus additional damage. It is planned to repair this spillway next spring or summer.

Signs are in fair condition with some work needed to replace those which are badly shot up. Extremely heavy grazing over most of the area has deprived upland birds of all cover. Only limited aquatic cover is present in the shallows of the upper part of the lake.

II. WILDLIFE.

Ninety five percent of the estimated 10,000 ducks present the latter part of October consisted of mallards and the remainder were pintails. Fair hunting was reported in the vicinity by duck hunters. We were rather surprised to not find any complaints of duck depredation. The ducks were feeding in fields, so farmers were either unaware of it or did not resent a few bu. being taken. Of course, the big factor was that harvest of grain was not retarded as in other areas by rain.

Upland game bird populations remained similar to last year with possible a slight increase in pheasants. The number using the refuge increased during the hunting season. However, the influx was not too great due to the low hunting pressure in this particular area.

Muskrats are down from last year while mink signs indicate an increase. Other fur-bearers remain about the same. One permit was issued to farm boys living on the refuge. As in the case for all easements, muskrat trapping was closed by State Proclamation.

III. PHYSICAL DEVELOPMENTS.

- 1. Inspection a nd wildlife censusing.
- 2. Repaired boundary markers.

WHITE LAKE

I. GENERAL.

Precipitation received for the period was below normal. Water level was 18" below spillway crest on Oct. 30. A grass fire occurred in the north west corner burning about 14 acres along the highway. The fire had been brought under control by neighboring farmers. Fair crops were harvested in this vicinity.

II. WILDLIFE.

10,000 mallards and 500 pintails were present during the latter part of October. Upland game birds remain scarce on this area. No species were observed, but according to reports a limited number of pheasants, sharp-tails and European partridge are seen upon occasions. Pheasants are in greater numbers than the other two species.

Fur-bearing animals remain about the same as in former years with the exception of muskrats. One trapping permit was issued to a farmer living in the refuge.

III. PHYSICAL DEVELOPMENTS.

1. Inspection and wildlife censusing.

NOTE: Much of the data for Lake Ilo and District IV Easements was supplied by Mr. Chesley M. Dinkins, Maint. Man (General) who is stationed at Lake Ilo Refuge.

(June 1949)

(1)		(2)	шоте спе (3		ton begge (4		ons, dep	(5)	(6)
Species	First M:	igrants Seen	Peak Conc	entration	Last Mig	rants Seen	7.7 (1) (1) (1) (1)	Produced	Total Estimated
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	perio	g:							
. Geese:	THEFT	10/16	SCOLU TOL	10/20-11	An Line on	s season c	oncerned	in the repo	300
Canada goose	The state of the s	ebserved	200		20				800
Cackling goose Brant	and the same of th	Observed							
White-fronted goose	150	9/29	500	10/20-11/	ONE IN A	limited, in	terval o	f time.	750
Snow goose	21	10/14	50	10/20-50					100
Blue goose		bevreade	mper geen	This dol				at species.	
Blue goose	13,197%	A STATES	record for	the specie	s during t	na season	nencerne	I in the rep	prime
. Ducks:	ETAGE	co cuope eb	DOZER-DE T	o erous casina acti	cional sig	ulficance.			
Mallard	and loss of	conf betree	50,000	11/1-20	propriate		pecial a	presittos apo	70,000
Black Duck	Neme	obsorves	O DIESC.II	30 4 30		becres occ		n reinge dur	THE ATTEN
Gadwall			200	10/1-20	10/1-20				400
Baldpate		Second of the	500	9/25-10/1					800
Pintail			4,000	9/10-30					8,000
Green-winged teal		-	25	8/20-9/10			Ha Lanbone	nos gen (cán	2,000
Blue-winged teal			1,000	0/20-8/10	Repo	rted by	Ores 103	N. Statute	2,000
Cinnamon teal	ACEL	apsorved	600	9/20-30					800
Shoveller	Tana	cheerved	900	\$/20-00	i i		1 1 1	100	GUU
Wood duck Redhead	50	10/14	200	10/20-50					300
Ring-necked duck	Home	dosorved		5410	pipal nest	ing areas	this see	3011	
Canvas-back	70	10/14	200	10/20-50					400
Scaup			2,000	10/30-11/	10	2			2,000
Golden-eye			20	9/20-30					20
Buffle-head			20	9/20-30	s used by	concentral	ions	Emilie area	20
Ruddy duck			80	9/20-30	BELON VAN VAN				50
Ducks				Pagi	waterfowl	numbers		3	
Geese				Tota	1 waterfow	l usage du	ring per	10d 80 ,50	
. Coot:			2,000	8/80-9/8					Form NI

(over)

Total Production:		8°000	0326-02/0				Form NR-
Geese	100 t 124		Total wa	aterfowl usage d	during peri	od 89,965	4,000
Ducks		60	Peak wat	terfowl numbers_		61,565	
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	10 10/19		10/80-80				100
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Cinnamon teal Shoveller	TOTAL STREET,	000	9)390	Donanted her	Chanles 1	, pase	J 500
Sreen-winged teal Blue-winged teal	Your durenver	1,000	8/20-8/20	Reported by		DO MEN (General	al)
batabate parters	30/06	4 000 010	INSTRUCTIONS				8 1000
	Zone, digraved	52555	0 /0 m 3 d /3 h	Arwen			Server 1 Co.
(1) Species:	In addition to the reporting period sh given to those spec	nould be	added in approp	oriate spaces.	Special at	tention should	d be,
(2) First Seen:	The first refuge reperiod, and the num						ting mo
(3) Peak Concentration:	The greatest number	of the	species present	in a limited i	nterval of	time.	760
(4) Last Seen:	The last refuge rec period.	ord for	the species dur	ring the season	concerned	in the reports	ing
(5) Young Produced:	Estimated number of sentative breeding 10% of the breeding	areas.	Brood counts sh	ould be made on	two or mor	re areas aggre	egating
(6) Total:	Estimated total num may or may not be m of the migrational	ore than	n that used for				

Refuge Hiddenwood Months of Sept. to Dec. 194 50

	(1) Species	First	2) Seen	(3) Peak Conce		(4) Last S		Young P	5) roduced	(6) Total
	Common Name	Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for Perio
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II.	Geese: Canada goose	Next	beerved	g set til	A. Carlo		To day of			
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ár.	White-fronted goose Snow goose Blue goose	a tirov pa			100		ii aani		to List	LINE THAT
II.	Ducks: Mallard	Tann	. X . 0 -	5,000	10/20-11/7	1-7-1-1-1 1-1-1-1-1		0 10 0	A LANGE FOR	6,000
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	Baldpate Pintail			75 500	10/1-15	Paul Durch			***************************************	75 600
	Green-winged teal Blue-winged teal		-	200	10/15-51					50 300
	Cinnamon teal Shoveller	Hone	observed.	50	10/15-51		1000	g combigs a c Mys	Luci o la	50
	Wood duck	Hone	peorved		STATE OF STREET					50
	Redhead Ring-necked duck	None	pharred	50	10/15-51					
	Canvas-back Scaup		-	150 200	10/1-15			1 - 1 - 3 - 3 - 3 - 3 - 3 - 3 - 3 - 3 -		300
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14.	*	nt Late I v				S. On Line	11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	LIENGERE?	5,305	-

3-1750 (July 1946)

(over)

Form NR-1

Tota	l Production:		
G	eese	Total waterfowl usage during period 8,155	
D	uc ks	Peak waterfowl numbers 6.615	
C	oots	Areas used by concentrations	
	Special field beat	Reported by Claude R. Alexander Refuge Manager	
	the september of the l	INSTRUCTIONS	
(1)	Species:	In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance.	e ·
(2)	First Seen:	The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.	3
(3)	Peak Concentra- tion:	The greatest number of the species present in a limited interval of time.	
(4)	Last Seen:	The last refuge recent for the species during the season concerned in the reporting period.	
(5)	Young Produced:	Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggrega 10% of the breeding habitat. Estimates having no basis in fact should be omitted.	
(6)	Total:	Estimated total number of the species using the refuge during the period. This fig may or may not be more than that used for peak concentrations, depending upon the new relations.	

	(1) Species	First	2) Seen	Peak Conc		(4)		Young P	5) roduced	(6) Total
	Value	1333113/00		in or for w	CONTENT OF THE	1 7770 1.50		Broods	Estimated	Estimated
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	The Francisco In				Ser Jahan			SAME ASSESSED	E dr. Impres	-
I.	Geese:		2.00		- 1995/7					
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	Snow goose									u nut
	Blue goose	Latin on	a time in	10000	Se serer	TO COLUMN	The same	1000	274	
	Durate - 2000	7 7 2 2 2 3		Mar reicht inne			edition in 18	Dan Ti	the state of the	*
I.	Ducks:		_	20,000	10/20-11/	-				20,000
	Black duck	Wome	bserved	20,000	70/20-17/	7 77 77 117	THE REAL PROPERTY.		-	20000
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	Pintail	1871	2 2	1,000	10/15-30					1,200
	Green-winged teal			100	10/1-15			7		100
	Blue-winged teal		~	500	10/1-15					700
	Cinnamon teal	None	perved				11年第二十二	o petale		
	Shoveller			100	10/1-15			194 11 330	1220,02	125
	Wood duck	Neme	beerved						-12	
	Redhead	(9)	**		-6:					
	Ring-necked duck				A TOWN					
	Canvas-back	1275	**	1		I Hamilton				
	Scaup	Regular St		_				-		
	Golden-eye									
	Buffle-head						Life of Valley	100 F-100	sect thes	X
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		Service of			- BASE AF.				264,900	
IV.	Coote			8000	20 4 25					1,000
LV	Coot:			900	10/1-15	MILL DIE J	de Rig et the United	- TOT	50 TOTE	1,000

3-1750 (July 1946)

(over)

Form NR-1

Tota	1 Production:						E .
G	eese	_	500	Total wat	erfowl usage d	uring period	54,025
D	ucks	_ 00 200		Peak water	rfowl numbers_		24,900
С	coots					this season_	
	getereday getereday getereday total	Mone cheerved	100	10/1+15 10/1+17	Reported by	Clarifo R. Ak Refuge Marag	
(1)	Species:	In addition to the bireporting period show given to those species	irds listed uld be added	d in appropr	iate spaces.	Special attenti	
(2)	First Seen:	The first refuge recoperiod, and the number					
(3)	Peak Concentra-	The greatest number of	of the speci	ies present	in a limited in	nterval of time	
(4)	Last Seen:	The last refuge pecks	d for the s	species duri	ng the season	concerned in th	ne reporting
(5)	Young Produced:	Estimated number of sentative breeding as 10% of the breeding b	reas. Brood	d counts sho	uld be made on	two or more an	reas aggregating
(6)	Total:	Estimated total number may or may not be more of the migrational me	re than that				

Refuge Legion Lake Months of Sept. to Dec. 19450

	(1) Species	First	2) Seen	Peak Conc) entration	(4) Last S		Young P	5) roduced	(6) Total
ks A	Common Name	Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for Period
I.	Swans: Whistling swan	Hone	bserved	erwog prod- reps, Bros midtakt, W	de agent		The Sand	relations	and regard	
II.	Geese: Canada goose	Eene	observed							
	Cackling goose Brant White-fronted goose	a leate i	42,000 1200	ed for the			and Alexander		Liphiden, printed	
	Snow goose Blue goose	Find, an	a plic has		- nother	THE PART OF THE PA		Adent ape	1484	
III.	Ducks: Mallard Black duck	None	observed	15,000	10/20-11/7	LI SIGNI	ASIAN SINGE	Track in a		20 ,000
	Gadwall Baldpate Pintail Green-winged teal		to tell	100 200 900 100	10/1-15 10/1-15 10/1-15 10/1-15		4 100 (400-400-9) 100 - 1400-5		is divise th	150 300 700 100
	Blue winged teal Cinnamon teal	None	observed	200	9/20-10/5		glos n	n geneties.	9	400
	Shoveller Wood duck Redhead Ring-necked duck	None	observed observed	50	10/1-15			* 17648		50
	Canvas-back Scaup Golden-eye		phosevod	300	10/1-15			The state of		400
	Buffle-head Ruddy duck			100	10/1-15	<u> </u>		Ectio /	esta stop	20 150
IV.	Coots			400	9/20-10/5			Total Page	73 13 50	600

3-1750 (July 1946)

(over)

Form NR-1

SUMMARTES

Tota	1 Production:		
G	eese	Total waterfowl usage during period 23,270	
D	uc ks	Peak waterfowl numbers 17,370	
	oots	Areas used by concentrations Entire water area	
	S. Carlotte	- Jone appearant	
		Principal nesting areas this season	
	STATE OF THE OWN	Time par nesting areas time season	
		Accompanies () 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
		Reported by Claude R. Alexander Refuge Manager	
	Disensellined bush	INSTRUCTIONS	
(1)	Species:	In addition to the birds listed on form, other species occurring on refuge during th reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance.	
(2)	First Seen:	The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.	i ,
(3)	Peak Concentra-	The greatest number of the species present in a limited interval of time.	
(4)	Last Seen:	The last refuge percent for the species during the season concerned in the reporting period.	
(5)	Young Produced:	Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregat 10% of the breeding habitat. Estimates having no basis in fact should be omitted.	
(6)	Total:	Estimated total number of the species using the refuge during the period. This figurate may or may not be more than that used for peak concentrations, depending upon the national movement.	

Refuge Months of Sept. to Dec. 194 50

(1) Species		(2) First Seen		Peak Conc	entration	(4 Last		Young P	5) roduced	(6) Total	
	Common Name	Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for Perio	
I.	Swans: Whistling swan	Hone	beered				The part of	a sporting of			
II.	Geese: Canada goose	None	beerved								
	Cackling goose Brant	Ning		A. Control	Suppression of the supersion of the suppression of the supersion of the suppression of the supersion of the sup		STATE OF A	1 10	to the second roots	1	
	White-fronted goose Snow goose	de Baserie	· //				Turca	D) Free			
/23	Blue goose		1/200	in the state of	air neight		olta min	ravoj sos	Carlos Marcal		
III.	Ducks: Mallard Black duck	None e	toervad	5,000	10/20-11/7		Paralle and			6,000	
	Gadwall			100	10/1-15				1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	100	
*	Baldpate Pintail Green-winged teal			200 500	10/1-15 10/1-15				-	200 600	
	Blue-winged teal Cinnamon teal	None ob	*	50 300	10/1-15 9/20-10/1		101	nie makara		400	
	Shoveller Wood duck Redhead	None o	servel	50	9/20-30		1 120	n a. Alex	0.00	50	
	Ring-necked duck Canvas-back Scaup Golden-eye	None o	sorved	100	10/1-15		LACTOR DAJES			100	
	Buffle-head Ruddy duck		Mary or or other	100	9/20-30	er . b	right railings	July Place Bu	Mil plan	100	
IV.	Coots			300	9/20-50	aniosii su			- 6,700	400	
3-175							e de quates		0.500	4	

3-1750 (July 1946)

(over)

Form NR-1

Tota	l Production:	A STATE OF THE STA	
G	eese	2009	Total waterfowl usage during period 8,000
D	uc ks		Peak waterfowl numbers 6,700
C	oots	- 100. 	Areas used by concentrations Datire wier area
		PERS COSTAGE 100	Principal nesting areas this season
	State States head dereaden best Stare des	I one observed 100	Reported by Gland R. Alexander 10
	Crist-share real	INSTRU	CTIONS
(1)	Species:		on form, other species occurring on refuge during the d in appropriate spaces. Special attention should be and National significance.
(2)	First Seen:		species during the season concerned in the reporting his column does not apply to resident species.
(3)	Peak Concentra- tion:	The greatest number of the spec	ies present in a limited interval of time.
(4)	Last Seen:	The last refuge percerd for the period.	species during the season concerned in the reporting
(5)	Young Produced:	sentative breeding areas. Broo	ced based on observations and actual counts on repred counts should be made on two or more areas aggregating stimates having no basis in fact should be omitted.
(6)	Total:		species using the refuge during the period. This figure at used for peak concentrations, depending upon the nature

Refuge Pretty Reck Months of Sept. to Dec. 194 50

	(1) Species	(2 First		(3 Peak Conc		(4) Last S	een	Young Pr	oduced	(6) Total
(E)	Common Name	Number	Date -	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for Perio
I.	Swans: Whistling swan	None	observed		n combre sy combre sy combre sy	ATTE OF PER	THE REAL PROPERTY.	nal cour nare ar should b	es effication of the Lebes	
II.	Geese: Canada goose	4700		50	10/10-20					50
	Cackling goose Brant White-fronted goose			100	10/10-20				2	1(6)0
	Snow goose Blue goose			T MAN EDGE	10/20-20	to a law	red Titae A	T GT TTWE		
II.	Ducks:	e flant	PER LE	rd fer the	Property of the	Tre the s	ececci perine	road in b	a Laborator	
	Mallard Black duck	Hone	bserved	10,000	10/20-11/1	0	0.172.10° (5"		*	12,000
	Gadwall Baldpate Pintail	Porting p		150 300 1,500	10/1-15 10/1-15 10/1-15	Cant opicia	in proming	E on roth	is during the	200 300 2,000
	Green-winged teal Blue-winged teal	None	ng observe		9/20-30		*			800
	Cinnamon teal Shoveller	Neces	bserved	100	10/1-15	pelactican	T CIMA	to manage	rijas.	150
	Wood duck Redhead Ring-necked duck	None	becryad becryad becryad		1					
	Canvas-back Scaup Golden-eye		Served	500	10/1-15		Living Pills	7892011		150 500
	Buffle-head Ruddy duck	A STATE OF THE PARTY OF THE PAR	Spaceog	200	10/1-15	of by rom		STAING NO	COL CLAF	250
TV/	Contra				Tuak mal	ALCHI USE	ers		13,000	-
TA.	Coots			300	10/1-15	of Links	Sin Mary and	held to	37,900	500

3-1750 (July 1946)

(over)

Form NR-1

Tota	l Production:			
G	eese	- 200	Total waterfowl usage during period 17.000	
D	uc ks	_	Peak waterfowl numbers 13.800	
С	oots out of the	NOTE DESCRIBE	Areas used by concentrations Entire water area	20
		Mone economic	Principal nesting areas this season	10
		None - obsorved 1000	Reported by Claude R. Alexander Refuge Manager	10,
	Gradu-Winged beal	INSTRU	UCTIONS	10
(1)	Species:		d on form, other species occurring on refuge during the ed in appropriate spaces. Special attention should be	00
(2)	First Seen:		species during the season concerned in the reporting This column does not apply to resident species.	
(3)	Peak Concentra- tion:	The greatest number of the spec	cies present in a limited interval of time.	
(4)	Last Seen:	The last refuge percent for the period.	species during the season concerned in the reporting	
(5)	Young Produced:	sentative breeding areas. Broo	ced based on observations and actual counts on repre- od counts should be made on two or more areas aggregating Estimates having no basis in fact should be omitted.	
(6)	Total:	Estimated total number of the s may or may not be more than the of the migrational movement.	species using the refuge during the period. This figure at used for peak concentrations, depending upon the nature	

	(1) Species		2) Seen	Peak Conc		(4) Last S	een	Young Pr	oduced	(6) Total
	Common Name	Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for Period
I.	Swans: Whistling swan	None	cheerved	Total Control			THE WALLACE			
100	Young Breds.		-		The state of			a see a see a	THE LOCK CO.	
II.	Geese: Canada goose	Nano	beervod	3110	Service Line					
	Cackling goose			- Eine	是在一次10人					
	White-fronted goose					<u> </u>	1-1-1-1			
	Snow goose	R Stern		21 /- 21 -	29 1 20		ser of this first		8.5	
	Blue goose					1 7 7		ALC: SHEET		
1/2	1.53 (1.5. 2000)			TAN TON SHAPE		723	100000000000000000000000000000000000000	Man are	- 9h	
III.	Ducks: Mallard Black duck	Wana		20,000	10/20-11/	10			,	80,000
	Gadwall	E CERO	posicog	200	10/1-15	PART REPRESENTATION	den Applicated to	of Experience		200
	Baldpate	13,172	A the The	400	10/1-15		to recognize	H- bo Karpel	a description	400
	Pintail	*		2,000	10/1-15					2,500
	Green-winged teal Blue-winged teal		-	60	10/1-15					600
	Cinnamon teal	-		500	10/1-15		- 200	all a material a	ş.	000
	Shoveller Wood duck		be er ved	100	10/1-15		1711	a 4 475:	enjak -	150
	Redhead	Name	opaer Ang	E0	10/15-50	-		-		50
	Ring-necked duck	None	beerved	30	25/20-56			*	0	
	Canvas-back	II Cale		200	10/15-51	L ment inc	THE RESERVE	WINDS CO.		200
	Scaup		-	500	10/20-11/	O				500
	Golden-eye		peareng	-						
	Buffle-head Ruddy duck	None	observed					122765	asiadi. Alim	290
	Ruddy duck			150	10/1-15					200
					Later Tests	LI A PAILS	S S S S S S S S S S S S S S S S S S S		138°600	
IV.	Coots			150	10/1-15			art frig	189,280	200

3-1750 (July 1946)

(over)

Form NR-1

Tota	l Production:		
G	eese	- 1780	Total waterfowl usage during period 24,250
D	uc ks		Peak waterfowl numbers 18,000
С	oots	- Note o poster	Areas used by concentrations
		Sione phantro	Principal nesting areas this season
		Mare observed	Reported by Claude R. Alexander Refuge Manager
	Tions-Fine? teal	INSTRUC	CTIONS
(1)	Species:		on form, other species occurring on refuge during the in appropriate spaces. Special attention should be and National significance.
(2)	First Seen:		species during the season concerned in the reporting his column does not apply to resident species.
(3)	Peak Concentra-	The greatest number of the speci	ies present in a limited interval of time.
(4)	Last Seen:	The last refuge pecard for the appriod.	species during the season concerned in the reporting
(5)	Young Produced:	sentative breeding areas. Brood	ced based on observations and actual counts on repre- d counts should be made on two or more areas aggregating stimates having no basis in fact should be omitted.
(6)	Total:		pecies using the refuge during the period. This figure t used for peak concentrations, depending upon the nature

	(1) Species	(2 First		Peak Conc) entration	(4) Last		Young P	5) roduced	(6) Total
	Common Name	Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for Period
I.	Swans: Whistling swan	None of	beerved	LOST LOST	courtes and courte			sponje p	and the second	
II.	Geese: Canada goose	None of	enrved							
	Cackling goose Brant						1			
	White-fronted goose Snow goose	p Raderieu	e Montpar		and most p	70 9 720	The sector	to a Tibel		
	Blue goose	ried, and	rps map	10	7/4 o 78	Link mag	elly to se	STORTE WOR	1646	
II.	Ducks:	a minet a	ALABU LA	the sub subjection	EDGE TOTAL	and the	Digracial Likelici	gried in t	S TALOURS S	
	Mallard Black duck	1 none no. 00		15,000	10/20-11/	0	CONTROL OF THE REAL PROPERTY.		-	20,000
	Gadwall	None o	perved	100	10/1-15	Later Aberta	ale abang	L attenti	in start la	100
	Baldpate	bougherns	THE PLAN S	200	10/1-15	distinction of the control of the co	his country	on want	in quinter av	500
	Pintail Green-winged teal			1,000	10/1-15					1,500
	Blue winged teal Cinnamon teal	None ob		500	9/20-30		502	, ĉe pestit		800
	Shoveller Wood duck		-	100	10/1-15	- polymer the	1 02 636	a Tr, Alex		200
	Redhead Ring-necked duck	None o	pearang pearang							
	Canvas-back Scaup Golden-eye		-	200 500	10/1-15					250 500
	Buffle-head Ruddy duck	None o	pearage		42.608.4			745,750-3	man phies	

3-1750 (July 1946)

IV. Coots

(over)

10/1-15

300

Form NR-1

500

20

14,250

Tota	l Production:			
G	eese	- 500	Total waterfowl usage du	ring period 24,250
D	ucks		Peak waterfowl numbers_	18,000
C	oots	Tota observed	Areas used by concentrate Principal nesting areas Reported by	this season
	Distanciating part	* 600	Significant Company	Refuge Hanager
(1)	Species:	In addition to the birds listed reporting period should be added given to those species of local	in appropriate spaces. S	pecial attention should be
(2)	First Seen:	The first refuge record for the period, and the number seen. The		
(3)	Peak Concentra-	The greatest number of the spec	ies present in a limited in	terval of time.
(4)	Last Seen:	The last refuge pecerd for the apperiod.	species during the season c	concerned in the reporting
(5)	Young Produced:	Estimated number of young productions sentative breeding areas. Brook 10% of the breeding habitat. Est	d counts should be made on	two or more areas aggregating
(6)	Total:	Estimated total number of the sp may or may not be more than that of the migrational movement.		

3-175	51
Form	NR-1A
(Nov.	1945)

MIGRATORY BIRDS

III. Doves and Piceons: (other than waterfowl)

Months of Septe to Dec. Refuge lake Ilo

(1)	(2			3)	,	4)		(5)		(6)
Species	First	Seen	Peak N	umbers	Last	Seen		Production		Total
		D 1		5	77 7	D. 1100.00	Number	Total #	Total	Estimated
Common Name	Number	Date	-Number	<u>Date</u>	Number	Date	Colonies	Nests	Young	Number
					rr	4000	7		aws Lwo	
I. Water and Marsh Birds:						08/0	men onell		J.WO.	
Common Loon			3	9/15-80						glagpie
Western Grebe			10		683		. recrest			поу 20
White Pelican			140	9/20-30	10000	I\I.	***************************************		\$ to 1	200
Double-Crested Cormorant Great Blue Heron			20			me den			Section 1	30
American Bittern			20	9/10-20					Bonne & Mar	80
Sand Hill Crane			1200	10/10-20	and the same of th					2000
Eared Grobe			200	9/10-30					mesing e	200
Tered alone			200	9/10-90	1.0				absolut a	200
			4		2				Topic Control	5
Nov N. Dichina	Seedo vol	betroger								
		par roday							-	
				TIONS	INSTRUC					
U.O.A mi group deil bas	MIEST ES	PI terix	serio d'.	in the A.C	punot si	annen jo	the corre	Use	asiced	*(1) S
The state of the s	oit the	nI oje	"mred"	"Ilugaea"		Istenen	blovA .	abro		
I. Shorebirds, Gulls and	ng parlu	itroger a	d gairet	aguler n	o garinus	po selsec	e tedto	form		
	Boncies	to those	nevia ed		Licenti	Special	eeoaga ed	sino		
Killdeer	des to di	(Cavition	Lancing Land	9/10-30		Groups:	fitcance.	nyla		100
A STATE OF THE PARTY OF THE PAR	Tiltbara	ferns (Ch	200		II Shor					300
Lesser Yellow-legs		amod forme	800		III Dove					400
	Intriel	eomio Tino	50	IS all soons	DOTS VI	,				50
Dowitcher and France			50	66						50
Avocet	.begrood	поо повя	50	soldeda.	edf for B	ומפ רפכסו	for Jenil	edT	irst Seen:	60
Wilson Snipe			100	10/20-30						100
Gulls	to faviet	at bedtml	1000	9/10-80	page end	to redum	greatest	ant la	eak Number	8000
Marbled Godwit			20	**			1 -		The Treatment	20
Wilson's Phalarope	oncerned.	sesson c	200	b selosga	for the	brocer er	Last refu	enT	ast Seen:	200
Willet			20	19	l-a				Test suit.	30
Black Term	Lautes ba	s enolige	reado no	beend bes	nbota sm	ov lo red	mun betan	Esti	inolitoubor	400
Common Term										500
							1			

	(1)	(2)	(3)	(4)			(5)		(6)
II.	Doves and Pigeons: Mourning dove White-winged dove	*55G		. 20	9/1-20	MIGR (other t		oll edal		Refu	AI-9M mro Nov. 1945)
	(5)			(4)	700	(3)		(2)		(1)	11-24-11
T 7.7	Produces Pinds	19		Last S	BIBC	Peak Num		E tenia		Balbac	8 11 11 11
LV.	Predaceous Birds: Golden eagle	Number T	9/20	7.4	12/20-30	Tedmal		Tedmul		emsil noi	moD: 4
	Duck hawk Horned owl Magpie	1 1 None see	9/20	1	10/20-30					derah bi	n rej II . I
	Raven Crow Snowy Out Swainson's Hawk Am. Rough Legged Hawk March Hawk Prairie Falcon Sparrow Hawk	Common.	12/1	300 4 4 5 15 2	9/10-50 12/1-50 9/10-50 9/10-50 9/10-50 12/10-50	08 08 00 00 00 00 00 00 00			diamor.	Mices Messare To Heren Mittern L Grene Obe	600 6 4 5 28 15 8
					RUCTIONS		Reporte	d by Cho	ley M. D	inkins Gen.)	10

(1) Species:

Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiiformes)

II. Shorebirds, Gulls and Terns (Charadriiformes)

III. Doves and Pigeons (Columbiformes)

IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)

andi-molfor tospol

(2) First Seen: The first refuge record for the species for the season concerned.

Peak Numbers: The greatest number of the species present in a limited interval of time.

Last Seen: The last refuge record for the species during the season concerned.

Production: Estimated number of young produced based on observations and actual counts.

(6) Total: Estimated total number of the species using the refuge during the period concerned. Refuge Lake De & District IV Resements Months of September to December , 19/50

(1) Species	(2) Density	no in tero	You Produ	ng	(4) Sex Ratio	R	(5) emova	ls	(6) Total	(7) Remarks
Common Name	Cover types, total acreage of habitat	Acres per Bird	Number broods obs'v'd.	Estimated Total	Percentage	Hunting	For Restocking	For	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
Phoesant Sharp-tailed Gr Hung. Partridge		ided (b	uni eg iedal else a else	IST ST	1-113 2-71 1	er i abna ere	sboom to dw ha	brien ; bde ; bu ed b bne	350 10 100	The short season on pheasant saved a large number of birds. Henting pressure was not as heavy as usual.
Phoasant Sharp-tailed Gr Hung, Partridge	ouse	il telin	OU RD	apian ga ba	ead , becabon	Sur d Fo		o Teo	60 20 40	TO TOURS ONDOX (E)
Theasant Sharp-tailed Gr Hmg. Partridge		ing the	turk be		th Category	an i	raq a	e t	200 25 50	(4) SEX HATIO: TO
Phoasant Sharp-teiled Q Hung, Partridge		rep ser ter to	edf ga t saw t baz Casas		the religion those signs unifer popula	nfali aniq fali ltd	APRILICATION OF THE PRICE OF TH	en la d Ane en Do Janus	40 20 30	(v) HEMARKS:
olean Pheasant Sharp-tailed Gr Hung, Partridge				, b	es es blucch	ben	BY C.S.	DO 1926	5 20 40	* Only columns applican
					-	A**			2	
X.263										H

INSTRUCTIONS

Form NR-2 - UPLAND GAME BIRDS.*

(1) SPECIES: Use correct common name.

(2) DENSITY:

Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.

- (3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.
- (4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.
- (5) REMOVALS: Indicate total number in each category removed during the report period.
- (6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.
- (7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

^{*} Only columns applicable to the period covered should be used.

UPLAND GAME BIRDS

Refuge Lake The & District IV Easement Refuges

Months of September

to December

, 194 50

			200	a good			×		
(1) Species	(2) Density		(3) Young Produced	(4) Sex Ratio	R	(5) Remova	ls	(6) Total	(7) Remarks
Common Name	Cover types, total acreage of habitat		Number broods obs'v'd. Estimated	Percentage	Hunting	For Restocking	For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
RETTY ROCK Pheasants Sharp-tailed Cro Hung. Partridge	uco	I and	teded a					100 10 50	
Phospart Sharp-tailed Cre Hung, Partialge	ugo	<u> Laure</u>		Description of the second			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	150 100 100	er respectable bases of
Phonont Sharp-tailed Gro Eung, Partridge	uso solven sie pro			er morphis d		- 1.1		60 20 40	E LATOR (8)
	Charles in some								LEBRANDE (P)
				and the second second				e mili užini	estings smartes vint *
				k =1 . 0 =	2.02				

INSTRUCTIONS

Form NR-2 - UPLAND GAME BIRDS.*

(1) SPECIES:	Use	correct	common	name.
--------------	-----	---------	--------	-------

- Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
- (3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.
- (4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.
- (5) REMOVALS: Indicate total number in each category removed during the report period.
- (6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.
- (7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

^{*} Only columns applicable to the period covered should be used.

Refuge Respond Entures District RV Year 19/ 50

	and other management of the	Sport Fishing		Commercia	l Fishing	Rest	ocking	Number re-
Species	Relative Abundance	Man days Fishing	Number Taken	No. of Permits	Pounds Taken	Number Stocked	Area Stocked	moved for Restocking
						PART STATE		
				House		None		Tene
ilda ouroad		Ice				MOLIG		
Icho Holoso		Ecco		Hen		Home		Neme
Lake Patricia		None		Fore		Home		Im
Legion Lake	Bullheads	Kone	12.7 S	Nene		Hene		Kere
	Suckera	Nane		Nane		Ecme		Hene
Pretty Roak	Bullheads	Heno		Hone		Hene		Hense
	hickors-Carp	Ime		Ime		lene		Nene
Stomet Lake	The second second							
Perch	Commen	160	200	Hone		Hone		Hene
Child Lab	Garages		200	None Tone		Name Home		Hone
Bullhends	Abundant		200 300	Hone		Hone		Home
Suckors	Dundant		500					
White lake	-							
Bullhoads	Americant.	175	200	Neme		Hane		None
Suckers	Abundant		200	Hone		Here		Hand
				7 2 4 6 6 6				
				THE REAL PROPERTY.				

REMARKS:

Refuge Year 1945

	Distribution and the second	Sport Fishing		Commercial Fishing		Rest	Number re-	
Species	Relative Abundance	Man days Fishing	Number Taken	No. of Permits	Pounds Taken	Number Stocked	Area Stocked	moved for Restocking
erge Mouth Bass	Georges		1,000	No No.				
luegilla	Commore	and a second of the second of	4,000	* Malak		15.80		
rappies	Common	Maria Maria	1,200			7 466		
erch	Adopted and		80,000	The same		1 6,500		
Bullhoods	Abundant.	Top a	1,000			trile		
Walleye Pike	Gennera		400			12,000	Lake Ilo	
Suekars	Abundant	H. H. M. J. Z.	for	aritem siem	ave heave			
Carp	Have been	a showing up	in shallow	water for	we years			
Satfish	Gennen		50			40-		
			77.5			37		
						4		
				Heate.				
				. MAGE			*	

REMARKS: Total of 5,000 man days fishing. The Crappie fishing was very poor this season compared with other years. The Perch fishing was very good but the fish run smaller than in the past. It is believed that the Perch are beginning to outnumber the other fish, especially the Crappie. The Catfish and the Bullheads seem to be disappearing as the ones that are caught are all of a relatively large size. The presence of the Carp in the shallow waters is very noticeable from the air by the areas of muddy water. There were 15,000 Walleye Pike stocked 5 years ago and 12,000 stocked this year.

CULTIVATED CROPS

Permittee (If farmed by refuge personnel, so indicate)	Permit No.	Unit or Loca-	Crops Grown	Avg. Yield per	Permittee's Share Bu.Har-		Harvested		overnment's Sha Unharvested		Compensatory Services, or	
Tom Ponence	18707	AU 1, 2	Com	Acre 8 20	Acres 12	vested	Acres	Bu.	Acres	Bu.	25 acres summer fallor	
Charles Schollmayer	18708	AU 4, 5	Barley Wheat	\$6 20	10 378	420 360	3 2	105	akat rodal	176	10 acres summer fallow	
Ares. If the permit the description of the conference of the confe	to efactive mi	od py refuge per cament and the s lare or Refurn -	reduced to ending	treet vino - ern trods direned no boors area ores	per Acre - It is	ton statistical	this column.	C TOURS SECURED TO	reconnel or bired	ember 31 refuge	CAL DIEBCLICHE L	
Summary of Crops Grown	: Crop	Acreas	ge Perm	ittee's es Bu	Share shels	-0 10	G Harvest res		nent's S Unh Acr	arvest		
Interior Duplicating Section, Wash.D.C.	Wheet:	tion to the second seco		.(0)	600 420	Son are	2	106	4 15		7/5 90	

DIRECTIONS FOR PREPARING FORM NR-8 CULTIVATED CROPS

Cultivated Crops Report Form NR-8 should be prepared on a calendar-year basis for all crops harvested or utilized during the calendar year and submitted with the December 31 refuge report.

<u>Permittee</u> - List each permittee separately. If lands of the refuge are farmed by refuge personnel or hired labor, this should be indicated in the <u>Permittee</u> column.

Permit No. - List the number of the Special Use Permit issued to the individual.

Use or location - The Unit No. or name specified in the Economic Use Plan should be listed in this column.

<u>Crops Grown</u> - A separate line of the form should be used for each crop grown by each permittee or by refuge personnel. This is important, since if each crop grown by each operator is not specifically enumerated, the report will be of no value for statistical purposes.

Average Yield per Acre - It is important that the average yield per acre of each crop grown by each operator should be shown.

Permittee's Share - Only the number of acres harvested or utilized by the permittee for his own benefit should be shown under the Acres column, and only the number of bushels of farm crops harvested by the permittee for himself should be shown under the Bushels Harvested column. It is requested that all crops harvested be reduced to bushels wherever possible, or, as in the case with the harvesting of seed such as that of sweet clover, alfalfa, bromsgrass, etc., the total harvested crop in pounds may be shown. Timothy, alfalfa, or other hay harvested by the permittee should be shown on Form NR-10 and should not be shown in the Permittee's Share column.

Government's Share or Return - Harvested - Show the number of bushels harvested for the Government and the acreage from which this share is harvested, both for grain raised by refuge personnel and by permittees. Unharvested - show the exact number of acres of crops allowed to remain unharvested as food and cover for wildlife. An estimate of the number of bushels of grain that is available for the wildlife in such unharvested crops should be shown in the Bushels column.

Compensatory Services, or Cash Revenue - Show other services received by the Government in cooperative farming activities, the number of acres of food strips planted for wildlife, the amount of wildlife crops not otherwise reported that are planted by cooperators for the Service, or the cultivation of wildlife plantations. If the permit is on a fee basis, the total cash revenue received by the Service.

(VELT) 1340)

Refuge Lake Ilo Refuge, Dunn Center, N. Dak. Year 19/ 50

Permittee	Permit No.	Unit or Location	Actual Acreage Utilized	Animal Use Months	Tons of Hay Har-	Perio From	od o:	f Use To	Rate	Total Income	Remarks
HAYING Tom Donohoe	31	HU-1,2,3	60		61.06	7/15	-	11/15	1.00	61.06	
Grover Odrem	52	HU-6, 7	20		18.0	16		*	1.00	18.00	
G. W. Searles	30	HU-5	30		29.0	•			1.00	29.00	
CRAZING	28	HU-4	20		16.0	86		00	1.00	16.00	
Louis Sastz	56	GU-8	45	20		8/15	•	10/15	.50	10.00	
William Sasts	29	GU=4	25	8		7/18	***	9/15	•50	4.00	



Acreage grazed 70

Animal use months 28

Total income Grazing......14.00

Acreage cut for hay 130

Tons of hay cut 124.06

Total income Haying 124.06

EASEMENT REFUGES OF DISTRICT 4a

Clearwater Lake National Wildlife Refuge:

The area was visited on October 13 and again on October 21, 1951. On both dates large concentrations of ducks were observed using the entire water area of the lake. According to the local farmers, the ducks were present this year in greater numbers than ever before, due probably to the abundance of food in the swathed grain fields. Several depredation complaints were received but the complainers were willing to stand the loss in return for the excellent hunting afforded the surrounding area.

Due to extensive land use there is little habitat for upland game birds. None were observed, but the local farmers report fair numbers of sharp-tailed grouse and hungarian partridge in that area.

Twelve muskrat houses were observed and one permit has been issued for trapping on the easement in accordance with State regulations.

This easement continues to be a popular spot for picnicking and swimming during the summer and early fall months. A small bath house has been constructed with volunteer labor from Stanley, North Dakota during this past summer.

Shell Lake National Wildlife Refuges

This lake again supported large concentrations of fall migrants. The area was visited on October 21 and at that time an estimated 20,000 ducks were present, composed of about 60% mallards and pintails. Also observed were 4 whistling swan. Little complaint has been received from this area due to duck depredations as the local people appreciate the excellent goose hunting that has been improving yearly since the establishment of the refuge.

Here, too, extensive farming to the waters edge has destroyed most of the upland game bird habitat and few upland game birds are to be found in the vicinity of the refuge.

Several hunters were contacted and all were well pleased with hunting conditions. Their game bags showed excellent results with all having near limits after only a few hours in the field.

Lake Zahl National Wildlife Refuge:

This refuge was visited on October 2 and again on October 20. The area was again heavily utilized by waterfowl. Water levels were somewhat higher than one year ago and proved very attractive to the large concentrations present. Good hunting is to be had in this area of the State and local people show no resentment to the refuge.

Fur Bearer signs indicate that the badger is the most prevalent and as usual the dike shows the results of their activities. Again next spring the dike will have to be repaired and all holes filled in as weather permits. Three permits have been issued to landowners and local people for the removal of mink, muskrat and other fur-bearers in accordance with State regulations and open seasons.

Funds have been set up for construction of a new boundary fence around the newly acquired Section 36 and the job will be completed in the spring as soon as time and weather permit.

All signs and markers were replaced or repaired as necessary prior to the opening of the hunting season. Tracings of the map of the refuge were furnished to business men in Zahl, North Dakota to aid them in giving information as to refuge boundaries to visiting hunters.

Refuge Classic Lets

Months of September

to December

194 51

(1) Species		(2 First		Peak Conc		Last		Young F		(6) Total	
	Common Name	Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for Perio	
I.	Swans: Whistling swan	None ob	served.	WARRED TO SELECTION OF THE SELECTION OF				A MARK TO			
II.	Geese: Canada goose Cackling goose Brant White-fronted goose Snow goose Blue goose	None ob	served.		CALLED OF	ALTER AND ST	esporario per l'interpretation per l'interpretation per l'interpretation	A STATE OF			
II.	Ducks:			THE REAL PROPERTY.	Figure	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			NA LEBOLINA		
	Mallard Black duck	None ob	served.	900	10/21	A STATE OF THE PARTY	BND 4			1,500	
	Gadwall Baldpate			100	10/21	OFFICE AND	SECTION AND ADDRESS.			100	
	Pintail			200	10/21					400	
	Green-winged teal	None eb	served.								
3	Blue winged teal Cinnamon teal	None ob	servel.	300	10/18		A Section 1			550	
	Shoveller			50	10/21	Shikosti	To Alberta			100	
	Wood duck Redhead	None ob	served.	450	10/21		The Land				
	Ring-necked duck	None eb	served.	200			Z MATROQUE			500	
	Canvas-back Scaup	70.81		500	10/21		201 1			350	
	Golden-eye Buffle-head	None ob		700	10/21					1,000	
	Ruddy duck			100	10/18	A STATE OF		DATE OF STREET	TOOL STRONG	200	
LV.	Coots			250	10/21	San	2			500	
				500	20/42	ENDERGOIS.	STATE CENT	CI DELISION	7	000	

3-1750 (July 1946)

48

(over)

SUMMARIES

Tota	l Production:		Elizabeth Carlos Company
G	eese	The second second	Total waterfowl usage during period 5,050
D	uc ks		Peak waterfowl numbers 5,400
C	oots	200	Areas used by concentrations Entire water area.
		Treps entering	
		100	
		DOO	Principal nesting areas this season
		the state of the s	10/01
	erde program	Seno electrod.	Reported by J.R. Frye
		HE good orderses.	Reported by
			CUCTIONS
(2)	First Seen:	given to those species of loca	led in appropriate spaces. Special attention should be and National significance. The species during the season concerned in the reporting
		period, and the number seen.	This column does not apply to resident species.
(3)	Peak Concentra- tion:	The greatest number of the spe	ecies present in a limited interval of time.
(4)	Last Seen:	The last refuge pecord for the period.	species during the season concerned in the reporting
(5)	Young Produced:	sentative breeding areas. Bro	luced based on observations and actual counts on repre- ood counts should be made on two or more areas aggregating Estimates having no basis in fact should be omitted.
(6)	Total:		species using the refuge during the period. This figure nat used for peak concentrations, depending upon the nature

Refuge Shell (McAlmond) Lake

Months of September

to December

194 51

	(1) Species	(2 First		Peak Conce		Last		Young P	5) roduced	(6) Total
				ar or me	felige di	Mary No Le	Se entre	Broods	Estimated	Estimated
	Common Name	Number	Date	Number	Date	Number	Date	Seen	Total	for Perio
I.	Swans: Whistling swan			4	10/21			of Acres of	the on marrie one adjusts	10
II.	Geese: Canada goose	15.00g		50	10/21					100
	Cackling goose Brant White-fronted goose	None ob	erved.				1			
	Snow goose	None ob	The second secon	ALCO GO	PR HAN	12 F 37	The freeze	STOL ST		
	Blue goose	None obs	ervdd.			goes one	100 Sec. 10	Stages as	G148*	
II.	Ducks: Mallard Black duck	None ob:	erved.	15,000	10/21		Carrier,		he reportive	20,000
	Gadwall Baldpate			300m	10/21	THE REAL PROPERTY.	Selv oceuniy	THE REPORT OF	the provided to	300
	Pintail Green-winged teal	None ob	perved.	2,000	10/13					3000
	Blue-winged teal Cinnamon teal	None ob	served.	500	10/13					600
	Shoveller Wood duck	Home ob		100	10/21	Papart				150
	Redhead			1,200	10/21					1,500
	Ring-necked duck Canvas-back	None ob	lorves,	600	10/21	and measure	E interne appro-	WHITTON'T		800
	Scaup	Wassa ab		800	10/21		1			800
	Golden-eye Buffle-head	Neme ob	IOTYGE.	25	10/18					50
	Ruddy duck			150	10/21	New March	s supre prou	Patrice, to	ron usau*	200
IV.	Coots			3,000	10/21	STATES IN	34.40	*		\$,500
						ex bur road	ज स्थान, वेस्त्रप्रिया	Bally 99	* 7	7,000

3-1750 (July 1946)

40

(over)

SUMMARIES

Tota	l Production:		"我们是我们的一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个
G	eese		Total waterfowl usage during period 31,110
D	ucks		Peak waterfowl numbers 23,829
C	oots	300	Areas used by concentrations Extirc water area.
	none at the	age spherices	
	gareno Granda periopo Principal de la lacia	1 10 to 0 10 to 100 to	Principal nesting areas this season
		71000	30/1/3
	A MARCY TABLE	Tome of the test o	Reported by J.R. Frys
		The chartes.	10/12
			dded in appropriate spaces. Special attention should be cal and National significance.
(2)	First Seen:		the species during the season concerned in the reporting
	SUM Spoot		This column does not apply to resident species.
(3)	Peak Concentra- tion:	The greatest number of the s	pecies present in a limited interval of time.
(4)	Last Seen:	The last refuge pecord for t period.	the species during the season concerned in the reporting
(5)	Young Produced:	sentative breeding areas. B	roduced based on observations and actual counts on repre- Brood counts should be made on two or more areas aggregating Estimates having no basis in fact should be omitted.
(6)	Total:		he species using the refuge during the period. This figure that used for peak concentrations, depending upon the nature

Refuge Lake Zahl

Months of September

to December

194 51

	(1)	(2		(3)		(4			5)	(6)	
	Species	First	Seen	Peak Conce	ntration	Last	Seen	Young Pr		Total	
С	ommon Name	Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for Period	
	wans: histling swan	Hene shi	erved.			CANAL SALE		PARTITION			
	eese: anada goose	None ob	erred.								
C E W	ackling goose Brant	Allege de Sancia		100 NO NO.			a Ages come				
	now goose	634 11 634 11			oper corner	n and any		a reduce of	armer .		
M	ucks: allard Black duck	None ob		4,600	10/20	Deg spiller		Land 10		6,000	
В	adwall aldpate Pintail	30/13 05		100 25 500	10/20	burshe the		and the same	Car Macona II	150 600	
E	reen-winged teal	None ob	sorved.	150	10/2					200	
S	innamon teal	None ob		50	10/20	- Salara	a phi	*//*/5/200		150	
R	food duck Redhead	Mene ob		250	10/2					850	
S	ling-necked duck Canvas-back Scaup	None eb	served.	\$ 00	10/2	of Marian	C progra acc	0 vs.00		400 300	
E	olden-eye Suffle-head Suddy duck	CONTRACTOR OF STREET	served.	250	10/2	S 201 20 00	Nacon Tark	MARINE SE		\$00	
				200	Mag w	rayada y		3000			
IV. C	soot:			300	10/2	erossiony.	a áltu gapar	a Subject	3	500	

3-1750 (July 1946)

200

(over)

SUMMARTES

Tota	l Production:		
G	eese		Total waterfowl usage during period 9.475
D	uc ks		Peak waterfowl numbers 7.025
С	oots	- rema continue*	Areas used by concentrations Entire water aboa.
		Sale states.	Principal nesting areas this season
		pere egrender.	Reported by J.R. Frye
	Species:	reporting period should be added given to those species of local	
(2)	First Seen:	The first refuge record for the	species during the season concerned in the reporting
	. 90		is column does not apply to resident species.
(3)	Peak Concentra- tion:	The greatest number of the speci	es present in a limited interval of time.
(4)	Last Seen:	The last refuge record for the speriod.	pecies during the season concerned in the reporting
(5)	Young Produced:	sentative breeding areas. Brood	ed based on observations and actual counts on repre- counts should be made on two or more areas aggregating timates having no basis in fact should be omitted.
(6)	Total:		ecies using the refuge during the period. This figure used for peak concentrations, depending upon the nature

LAKE ILO REFUGE

I. GENERAL

A. Weather Conditions.

Precipitation was about average for May and June while the amount received for July and August was below average. The month of May from the weather standpoint was little more than a continuation of winter. Eight inches of snew was recorded for the first week and a hard freeze occured on the 20th of this month. The first frost of fall came on August 19. The period generally was cooler than the average temperature for normal years. The following weather data tabulation compares recordings for 1950 with 1949.

			Tempe	rature
Year	Month	Precipitation	Max.	Minamum
1959	May	3.83	83	26
	June	4.31	91	30
	July	.72	97	38
	August	.83	91	29
	Total	9.69	97	26
1949	May	1.29	95	34
	June	2.42	104	42
	July	3.00	102	38
	August	3.37	110	32
	Total	10.08	110	32

B. Water Conditions.

Ice went out of Lake Ilo on May 13, this year. The Lake level was 3" above spillway crest at the beginning of the period and increased to 7" on May 13. By June 1st only a small flow of water was going over the spillway. From approximately this date to the close of the period, water-level receded to 11" below the spillway.

C. Fires.

No fires are reported for the period. We are again faced with the usual hazard for the fall period.

II. WILDLIFE

A. Migratory Birds.

The population for all migratory birds showed a decrease from 1949 for the months of May, June and July. However, it is believed that the numbers for August were equal to last year's population. The first brood count was made on July 20; 128 broods were recorded. The first count of 1949 showed 206 broods and for 1948, 200 broods. The estimated population of ducks for July totaled 1100 adults. The estimate for August was 12,000

consisting of the following: 4,000 B.W. Teal, 4,000 mallards, 2000 pintail, 1000 bildpates and 1000 other ducks made up of shoveller, ruddy, G.W. Teal. It is believed that the largest B.W. Teal population ever reported was present during August, and there appears to be more baldpates than usual.

General observations indicated that less shore birds used the area than in the past. An estimated 2000 shore birds consisting of Wilson's Phalarope, greater and lesser yellow-legs, willets, killdeer, avocets and spotted sand-piper used the refuge during the period. White pelicans were present throughout the report period with 270 being counted on August 26. Blue herons were present in less numbers than normal.

There was again this year an abundance of all common acquatics and provided more than ample food and cover.

B. Upland Game Birds.

Early in May, an estimated 200 pheasants were in the refuge. In a small 40 acre field south of headquarters, 15 hens and 5 cocks were counted at that time. Since then, very few adult pheasants or broods have been observed. On this same 40 acres, only one brood, 2 hens and 1 cock bird were seen during July and August. In our opinion, the pheasants are at the lowest ebb since the refuge was constructed. This seems to be the general concensus of opinion from farmers in the vicinity. A roadside count on two miles of refuge roads revealed only two broods. Not a single pheasant brood was seen when the Aug. 8 duck brood count was made which covered all roads and shore line at the early morning hour when pheasants usually are in open areas. On Aug. 30 a trip was made to easement refuges covering 250 miles. Over this entire distance only one brood of 6 young and 2 adult hen birds were seen. These figures are surely indicative of the low pheasant population.

No prairie chickens were observed during the period. Two adult "sharptails" and only one brood have been seen in or within the vicinity of the refuge. The few Hungarian or European partridge seen, although small, indicate that this bird has increased slightly. The number is considered small.

C. Big Game Animals.

None observed.

D. Fur Animals, Predators, Rodents and other Mammels.

A limited number of mink have been seen on the refuge as well as signs of the animals. At the present time, our opinion as to the population is about the same as last year.

Weasels, according to sight observations and signs, are on an increase. The population is not, as yet, sufficient to cause alarm.

The muskrat population appears to have decreased approximately 30% from 1949. It was estimate that from 500 - 600 "rats" were using the refuge. Only 60 animals were taken during the fur harvest of 1949.

F. Fish.

The fishing season opened May 16 for perch, crappies and wall-eyed pike. The season for nest building fish; bass and bluegills, opened June 16. Fishing success was lower than any season during the past few years. The catch for perch, bluegill and bass was only fair while the number of crappies taken was far below average.

A large number of fish died from some undetermined cause during the period from June 20-30. It is estimated that 15,000 dead fish of all species common to the area washed up on the east shore of the Lake. 2,336 of these were picked up on 400 ft. of shore line near the headquarters area. No dead or dying fish have been observed since June 30.

III. REFUGE DEVELOPMENT - MAINTENANCE

A. Physical Developments.

- 1. Completed repair to last winter's snow damaged fence.
- 2. Repaired all tools used at take Ilo.
- 3. Replaced double 2 ft. concrete culverts in refuge road that were washed out this spring. The job was completed by hauling 28 Cu. Yds. of fill and placing over culverts.
- 4. Made several steel corner posts.
- 5. Hauled 25 Cu. Yds. of scoria and repaired surface of refuge roads.
- 6. Cleaned outseptic tank.
- 7. Moved old chicken house away from headquarters.
- 8. Installed new 10 X 30 ft. asphalt roofing on barn and chicken house.
- 9. Received R.E.A. Electric power at headquarters.
- 10. Installed and painted new 6 In. cedar siding on barn and chicken house. Removed old siding and re-nailed boards.
- 11. Received and installed electric refrigerator at headquarters.
- 12. Inspected and picked up dead fish on shore line of Lake Ilo.
- 13. Re-nailed boards, installed new 6" cedar siding and painted garage, 16X24 ft., two coats.
- 14. Make brood count on Lake Ilo Refuge July 20 and Aug. 8, 1950
- 15. Installed small pump for watering lawn at headquarters. Watered Lawn upon completion of installation as necessary.
- 16. Mowed weeds along refuge roads.
- 17. Enlarged doors in garage from 10' to 12'. Doors were constructed from salvaged siding and installed.
- 18. Installed new enameled wall covering on kitchen of Lake Ilo residence.
- 19. Moved small granary, 10X10 ft. from below dam to headquarters. Concrete foundation was constructed.
- 20. Constructed 3/4 mile of new refuge boundary fence.

B. Plantings.

No crops were planted by refuge personnel. The following crops were planted the indicated share-croppers: Tom Donahoe, & acres corn, 12 acres wheat and 25 acres summer fallowed; Charles Schollmeyer, 20 acres wheat, 20 acres barley and 10 acres summer fallowed. The 8 acres of corn and $7\frac{1}{2}$ acres barley will be left standing for wildlife food. $3\frac{1}{2}$ acres barley and 2 acres of wheat were harvested for refuge emergency wildlife feeding.

Crops were fair in this vicinity; Refuge wheat averaging 20 bu. to the acre and barley, 35. The corn is very late and it is doubtful if any will mature. A large percentage of corn was hit by the frost and has been cut for feed.

Four haying permits were issued to neighboring farmers. All hay has been harvested and stack measurements will be taken after hay has settled the necessary length of time. Two grazing permits are in effect at the present time.

VI. PUBLIC RELATIONS

A. Recreational Uses.

The recreational area was again under the management of the Dunn County through a cooperative agreement with the Service. They have cultivated trees, mowed grass and kept the picnic grounds clean and orderly. In addition, 1228 trees were planted and cultivated. An exceptionally large number of people utilized the area to it's greatest advantage.

Mr. Dinkins advises that he read in the Killdeer Herald, County paper, that 12,000 wall-eyed pike were stocked in Lake Ilo, but no official notification has been received from the State Game and Fish Department.

EASEMENT REFUGES - DISTRICT IV

HIDDENWOOD

I. General.

Precipitation for this area was below normal for the period. Fair crops were produced. Water levels were higher than usual at the beginning of the period and 12" below crest at the end of August.

II. Wildlife.

Very few birds have been observed on this area during the summer months. When the refuge was inspected on July 14, only 7 adult ducks and

no broods were observed. 250 ducks were conted on the Sept. 1, visit and consisted of the usually variety: mallard, pintail, B.W. teal, canvasback and ruddy. Only two broods of canvasback were seen this date.

Signs of pheasants were observed, but none being seen. No sharp-tailed grouse or European partridge were seen although, it is believed, a small number are using the area.

The chief acquatic in normal years is bullrush and usually covers the water area. This year, only small scattered patches are present along the shore line.

The muskrat population for 1950 is believed to be only 50% of that for 1949. The present animals are using shore lines where trees and grass are growing and are apparently feeding here due to the shortage of acquatic grouths. The mink signs observed indicate the population is comparable to last year.

III. Physical Develppments.

- 1. Brood counts and wildlife observations.
- 2. Refuge markers were checked and repaired or replaced.

LAKE PATRICIA

I. General.

Rainfall was above normal during the first part of the period and below for the latter two months. Fair crops are being harvested at the close of the report period. Water level was higher than normal for the summer months. It was 1 ft. below the spillway crest on July 19, and approximately 18" below Aug. 31.

II. Wildlife.

A brood count was made on July 19 and 17 broods recorded. Listing of the broods is included in the Easement IV. brood data tabulation which follows. Total waterfowl usage of the area was below records for 1949.

No ring-necked pheasants were observed on the July 19 duck brood count. This gaudy bird, from all indications, has not been so scarce since the refuge was put into operation. There are undoubtedly a very few using the area which is also true for the sharp-tailed grouse and European Partridge although no actual observations were made.

III. Physical Developments.

1. Brood counts, wildlife observations and routine inspection.

LEGION LAKE

I. General

Precipitation was above normal for May and June with very little occuring for July and August. The water level in early may produced only a small flow over the spillway and on Aug. 31 was 12" below spillway crest. Escape cover along shore lines was good throughout the period.

II. Wildlife.

Ten broods were recorded on the count of July 19. It was felt that, in view of this year's late season and corresponding late hatch, this date was too early to bbtain a good representative figure. Mr. Hammond, Biologist, assisted by Mr. Lindmier, Student Assistant, conducted quite a detailed survey on habitat, duck nesting and effects of grazing on the area results of which will probably be included in Mr. Hammond's report.

The following birds were recorded on the inspection trip of Sept. 1: 110 white pelicans, 2 cormorants, 30 gulls, 300 shore birds, 400 ducks consisting of mallards, B. W. Teal, pintails, baldpates and shovellers, 3 black-crowned nite herons and 2 great blue herons.

No pheasants were observed, however, signs indicated that the area is supporting a fair population for the current low of this species. Sharp-tailed grouse and European partridge also escaped observation leading us to believe that their numbers were small.

III. Physical Developments

1. Boundary markers were checked and repaired or replaced.

MCLEAN

I. General.

Precipitation above normal for the first one half of the period and below for the second half. Fair crops were harvested in the vicinity. A small flow of water was passing over the spillway early in May and 15" below spillway level at the close of the period.

Bullrush stands appeared to be the best since the refuge was built providing an abundance of protective and nesting cover for many water-fowl species.

II. Wildlife.

The brood count of July 19, was also too early considering the late nesting season. Only two broods were observed. A count taken on a later date, would have found a considerable number broods using this refuge.

Mink signs observed were common and were indicative of an increase over 1949. The muskrat population appears to have gone the other way or decreased since last year.

The following birds were seen on the routine inspection trip of Sept. 1: 500 ducks consisting of 70% mallards, 20% B.W. Teal, 10% baldpate, pintail and shoveller; 2 great blue herons, 3 marsh hawks, 200 shore birds.

III. Physical Developments.

- 1. Hauled and placed 40 Cu. Yds. of rock on down stream slope of spillway.
- 2. Repaired rip-rap on bridge below spillway.
- 3. Boundary markers were checked and repaired or replaced.
- 4. Brood counts and wildlife observations.

PRETTY ROCK

I. General.

Precipitation: above normal for May and June, below normal for July and August. Crop yields are above those for last year.

Water level: slightly above spillway level in may to 12" below for the latter part of August. Spillway damaged by last springs run-off. Plans are being made at the present time and money is to be allowed for repairing spillway.

II. Wildlife.

Brood count was made on July 19 and 39 broods were listed which is two more than last year's count, but still below top production for the past years. Here, as on the other Easements, many ducks were still incubating. Ideal cover and nearby food sources were in abundance and will no doubt afford the necessary environment for a large number of fall migrant waterfowl.

No upland game birds were observed during the date of the brood count. The presence of any species is undetermined. At least two cock pheasants announced their presence by crowing.

According to signs, the mink and muskrat population is about the same as for last year.

III. Physical Developments.

- 1. Brood count, general inspection and wildlife observations.
- 2. Refuge markers checked and determined to be in fair condition.

STEWART LAKE

I. General.

Precipitation: above normal for May and June, below normal for July and August. Corn crop in vicinity was heavily hit by the frost on Aug. 19 and it appears doubtful if any corn will mature this season. Water level: slightly above spillway crest in May and 24" below for Aug. 31. The spring run-off resulted in damage to the spillway and plans for this refuge also are being formulated and money is to be alloted for repair work.

II. Wildlife.

The area was visited for inspection and brood count on July 18. On this date, the area was practically void of waterfowl. Only two broods were recorded and only one duckling in one of these. There were an estimated 4000 ducks using this refuge on August 31. Of these, 40% blue-winged teal, 30% mallards, 20% baldpate and 10% pintail and shoveller. 98 ymung coot were counted; 200 shore birds and 50 gulls.

From observed indications, the ring-necked pheasant population is down from last year while the "sharp-tails and "Huns" are about the same.

The mink population appears to be slightly increased from last year while the muskrat has decreased. None of the latter animals were observed although some of their workings were noted. One young mink was heard and then located apparently lost from it's den.

III. Physical Developments.

- 1. Boundary markers were checked and repaired or replaced.
- 2. Brood counts and wildlife observations.

WHITE LAKE

I. General.

Precipitation: above normal for May and June; below normal for July and August. Crops fair on the area and in vicinity with the exception of corn which was hard hit by frost on Aug. 19. Water level: sligtly above spillway crest at beginning of period and 24" below spillway level at close of period.

II. Wildlife.

Only two broods were seen on the count of July 18, 1950. This is far below the 36 broods recorded for June 13, 1949. The area was again visited on Aug. 31 for routine inspection and wildlife observation at which time the following birds were seen: 400 ducks consisting of 30% mallards, 30% pintail, 20% B.W. Teal and 10% baldpates and shovelers.

A small number of gulls and shorebirds were present.

Mink signs were numerous and some muskrat activity was in evidence.

III. Physical Developments.

- 1. Brood counts and wildlife observations
- 2. Boundary markers were checked and repaired or replaced.

NOTE; The above report on Lake Ilon and the District IV Easement Refuges was prepared largely on data supplied by Mr. Chesley M. Dinkins, Maintenance Man (General).

Following is a tabulation showing the total number of broods and young actually observed on the Easement Refuges.

EASEMENT REFUGE BROOD DATA

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EASEMENT REFUGE BROOD PATA (CONTINUED)

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Mallard	=======================================		:		2 2	10	3	71	2	'n	:	1	2	1	:	3	*
Gadwall	=		:		*	1	:	9	*		2		*		:		
Baldpate	=		\$	*	2	3	:	21			:		k		:		*
Pintail	8	L	\$	2	8	7	:	58	2	1	\$	4			:		\$
G.W. Tea	ls		\$		*		:		2		:		24		\$		à
B. W.Tea	ls	1.	\$	8	8	1	:	11			:				:		\$
Shovelle	rs		:		8	2	:	15			:		2		:		\$
Scaup			:		*	1	:	1	:		3		*		2		12
Coot	:		:		*	2	8	3	2		:		8		:		\$
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Total	:	2	:	10	22	34	\$	231		2	:	5	2	2	:	10	::

Total production for Lake Ilo and Easement Refuges in District IV was 193 broods and 1191 ducks and coots actually counted. The total for 1949 was 252 broods and 1630 ducks.

EASEMENT REFUGES OF DISTRICT 4a

Clearwater National Wildlife Refuge:

The area was visited on July 18, 1950, and again on August 8, for inspections and brood counts. All land suitable for any type of farming practice was utilized and down to within the water's edge where the beach would permit the use of machinery. Re-posting work is necessary and is planned for the future when time permits. Water conditions and aquatic cover was adequately satisfactory for this type of area. The dispersed condition of broods and the wild actions of adult ducks indicated considerable disturbance throughout the period. Brood data is combined in report for District 4a Easements.

Shell Lake Easement Refuge:

We were able to visit this Easement only once during the period and that was on July 19, 1950, when the brood count and general inspection trip was made. The area is also miss used from the agricultural standpoint. Water conditions and cover was good and probably accounts for the fair showing of broods observed as listed below. Refuge markers, generally speaking, were in fair condition, with only an occasional one needing replacement.

Zahl Easement Refuge:

The general condition of this easement as observed on July 18, 1950 was good. A brood count was taken at this time and a fair representative number of broods were observed, although lower than for the average of preceding years. Badger holes in the dike were caved in and repaired, signs replaced on south boundary and cut weeds on dike.

Easement District 4a Brood Data

			Number	in b	roods	by age c	lasses	
Refuge	Species	Date	Ia	Ib	IIa	IIb.	III	Total Young
Clearwat	er							
	B.W.Teal	7/18	8					8
	Mallard	8/8					6	6
	B.W.Teal	8/8	4,5		2	7,6,5		29
	Redhead	8/8	5,6					11
	Canback	8/8	3					3
	Ruddy	8/8			8			8
	Coot	8/8	(7 you	ing)				7
	Total:		31		10	18	6	65
Shell La	ke Mallard	7/19	10,7	7,10				34
	Gadwall	'n	11,4					15
	G.W. Teal	11		3				3
	B.W. Teal	13	8,12					20
	Pintail	11		2	7			9
	Total:		52	22	7			81

Easement District 4a Brood Data

			Numbe	er in 1	broods	by age	classes	
Refuge	Species	Date	Ia	Ib	IIa.	IIB	III	Total Young
Zahl	Mallard	7/18	8	6				14
	Gadwall	55	11,5	5				16
	B.W.Teal	11		10				10
	Shoveller	15	4					4
	Pintail	18	6		7,10			23
	Total:		34	16	17			67

Refuge Lake Ile Months of May to August 194 50

Species Common Name	First		Peak Conc	entration	Last S	Seen	Young P	roduced	Total
Ounton Name	Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for Perio
wans: histling swan	Alexander P	realing a realing a	est sh	THE PART OF		and and a and on the also in face	or hare an dr mare an should b	a on the	None
Geese: Canada goose	- TORK		W. T. C. C. C.	pleares am	nut enu s			Lacino error	None
Brant	200								
Snow goose			the apeq	led present	THE REPORT	red history	e j oj Mile	-	
oucks:	a linat r	Alle Dunk	ind for the	Parties of	TOR CHE		arnel in t	e reporting	
fallard Black duck	ant profil	ork river	4000	8/20-31	i nan		27	250	4500
		BALTIN III	100	d de April		Name of	5	50	150
Pintail			2000	8/20-31	7.2		20	200	1200 2500
	• • • •		• • 50	I LEGING			2	20	50
Cinnamon teal			4000	8/20-31		e 193			4500
Nood duck	e: 1						23		350
Redhead Ring-necked duck	None see	n this pe	riod.					1,2 40	
Scaup Golden—eye	None see	n this pe	riod.	3-50-1					
Buffle-head Ruddy duck			40	8/20-30	10 teta	mp.g. 100s	,		50
Soot e		7		A STORY	i maril m	112.0			
000 6 8				tion Land	Total Comment	di mani	1	12	200
	eese: anada goose ackling goose rant_ hite-fronted goose now goose lue goose lue goose lue ks: allard lack duck adwall aldpate rintail breen-winged teal innamon teal choveller food duck edhead ing-necked duck caup colden-eye suffle-head	eese: anada goose ackling goose rant_ hite-fronted goose now goose lue goose ucks: allard clack duck adwall aldpate cintail reen-winged teal innamon teal choveller cood duck cedhead ing-necked duck canvas-back caup colden-eye auffle-head auddy duck	eese: anada goose ackling goose rant_ hite-fronted goose now goose lue goose ucks: allard clack duck adwall aldpate cintail creen-winged teal clue-winged teal	eese: anada goose ackling goose rant_ hite-fronted goose now goose due goose ucks: allard dlack duck adwall aldpate cintail recen-winged teal dlue-winged teal dhoveller dood duck edhead ding-necked duck anvas-back caup colden-eye suffle-head duddy duck 4000 None seen this period. None seen this period.	eese: anada goose ackling goose trant hite-fronted goose now goose lue goose lue goose lueks: allard llack duck advall aldpate cintail treen-winged teal llue-winged teal innamon teal thoveller tood duck tedhead ing-necked duck anvas-back caup tolden-eye auffle-head auddy duck 4000 8/20-51 100 8/20-51 8/20-51 None seen this period. None seen this period. None seen this period.	eese: anada goose aackling goose rant hite-fronted goose now goose lue goose ucks: allard clack duck advall aldpate rintail recen-winged teal clue-winged teal innamon teal thoveller cood duck eedhead ing-necked duck canvas-back caup colden-eye suffle-head duddy duck we seen this period. None seen this period. None seen this period.	eese: anada goose aackling goose rant hite-fronted goose now goose llue goose llue goose llue goose llue goose llue data datal alalard lack duck adwall aldpate rintail reen-winged teal lineamon teal hoveller lood duck edhead innamon teal hoveller lood duck edhead ing-necked duck lanvas-back caup olden-eye uffle-head uddy duck	eese: anada goose ackling goose rant hite-fronted goose now goose lue goose ucks: allard llack duck adwall aldpate dintail reen-winged teal innamon teal thoveller tood duck eethead ing-necked duck anvas-back accup colden-eye miffle-head uddy duck 4000 8/20-31 27 28 200 3/20-31 25 25 25 25 26 None seen this period. None seen this period.	eese: anada goose ackling goose trant hite-fronted goose now goose lue goose

3-1750 (July 1946)

(over)

SUMMARIES

Tota	l Production:						
G	eese		Total wat	erfowl usage during	period		-
D	uc ks	•	Peak wate:	rfowl numbers			
C	oots	· · · · · · · · · · · · · · · · · · ·	Areas use	d by concentrations			V V
		Tand peeds this ported.	Principal	nesting areas this	season		
		gene same spice /enjoy*	•				- 4
	Marie Bank			Reported by	83	500	- 51
			W-915-917		\$1	202	- 12
	(*APACHTMEN, 190] Přířímí	INSTRU	UCTIONS		- 82	800	58
(1)	Species:	In addition to the birds listed reporting period should be added given to those species of local	ed in appropr	iate spaces. Specia			
(2)	First Seen:	The first refuge record for the period, and the number seen.					
(3)	Peak Concentra-	The greatest number of the spec	cies present :	in a limited interva	al of time	•	
(4)	Last Seen:	The last refuge pecerd for the period.	species duri	ng the season conce	rned in the	e reporting	
(5)	Young Produced:	Estimated number of young produsentative breeding areas. Broom 10% of the breeding habitat.	od counts sho	uld be made on two	or more ar	eas aggregati	ng
(6)	Total:	Estimated total number of the smay or may not be more than the of the migrational movement.					

3-1751 Form NR-1A (Nov. 1945)

MIGRATORY BIRDS

194/ 50 (other than waterfowl)
Months of Refuge Lake Ile

(1) Species	(2 First		Peak N	3)	Last			(5) Production	n	(6) Total
Species	FIRST	Seen	reak N	umbers	Last	Seen	Number	Total #	Total	Estimate
Common Name	Number	Date	Number	Date	Number	Date	Colonies		Young	Number
				Unecon Va	2					Duois h
. Water and Marsh Birds:				İ [.Ewo	
Eared Grebe			220	8/20-30	ă,				100	400
Western Grebe			None	een	gos					nev10
Pied-Billed Brebe					2.9				10	W 50
White Pelican			270		1.0				5/900/1 177	500
Double Crested Cormorant Great Blue Heron			10	8/20-31						20
Black-Crowned Night Heron			12	10					8	20
STOOK-OLOMING WIGHT WOLOM		1 -	2.60						0	20
La transfer of the second				TIONS	INSTRUC					
. Shorebirds, Gulls and Terns:	addition oraq ga aakoeqa	plist le ete; In ete reporti	0.0. Ched tern, during the be given	in the A "seagull" i refuge on should	ns found terms as eurring c l attenti	ot names general pecies or Special	r. Avoid others te spaces		pecies:	(I)
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. Shorebirds, Gulls and Terns: Killder Willet Greater Yellow-Legs Lesser Yellow-Legs Spotted Sand Piper Dowitcher Marbled Godwit Avocet Wilson's Phalarope	. addition of period of the corned of the co	ete, In capact to those (Caviifor Terms (Ch oulforme eason con	"term". during the giver be giver alls and cons (Col con	in the A "seagull' in refuge r and Mar ebirds, C and Pir sand Pir	as found tarms as curring of l attents II. Nate III. Dove IV. Pred d for the	general Special Special Groups: Groups: Jge recor	r Avoid other s te spaces ificance first ref	orde form pris sign sign rs; The	OOL irst Seen	200 25 50 100 100 50 25 50 200
. Shorebirds, Gulls and Terns: Killder Willet Greater Yellow-Legs Lesser Yellow-Legs Spotted Sand Piper Dowitcher Marbled Godwit Avocet Wilson's Phalarope	. addition ng perion speckes mes to C aradriif s) s) Strigit cerned.	e reporti to those (Caviifor Terns (Ch umbiforme oniforme	"term". during the giver be giver alls and cons (Col con	in the A "seagull' in refuge on should r and Mar ebirds, C s and Pir accous Bi species	as found tarms as curring of l attents II. Nate III. Dove IV. Pred d for the	general Special Special Groups: Groups: Jge recor	r Avoid other s te spaces ificance first ref	orde form pris sign sign rs; The	100	200 25 50 100 100 50 25
. Shorebirds, Gulls and Terns: Killdeer Willet Greater Yellow-Legs Lesser Yellow-Legs Spotted Sand Piper Dowitcher Marbled Godwit Avocet Wilson's Phalarope Gulls Common Terns	. addition of period of the corned of the co	e reporti to those (Caviifor Terns (Ch umbiforme oniforme eason con inited in	tern', during the be given sh Birds alls and cons (Col cos (Falc ior the s	in the A "seagull' in refuge r and Mar ebirds, C and Pir sand Pir	as found terms as curring of l attenti I. Mate II. Shor III. Dove III. Pred d for the for the	general Secies or Special Groups: uge record ye record	r Avoid other s te spaces ificance first ref	orde roote sing igis The The	OOL irst Seen	200 25 50 100 100 50 25 50 200

(1)	(2)	(3)	(4)	(5)	(6)
III. <u>Doves and Pigeons</u> : Mourning dove White-winged dove	aunu4 oj	RY BIRDS (waterfowl)	(other than	e Ilo	Refuse	(Nov 1945)
IV. Predaceous Birds:	sen Pr	(4) Last S	(3) Peak Number	(2) First Sen	(1) Secies	
Golden eagle Duck hawk Horned owl	Date Colonies	4 8/20- 5 8/26		Date Date	eman hos	8
Magpie Raven Crow Harsh Hawk Sparrow Hawk		500 8/20- 25 10	-51		eder eder Brebe iden deris between	200
OS B		25	10			drest His
		INSTRUCTIONS	7	Reported by	hesley M. Dinkins	

Species:

Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiiformes)

- II. Shorebirds, Gulls and Terns (Charadriiformes)
- III. Doves and Pigeons (Columbiformes)
- IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)

Greeter: Yellow-Laus

ecornfact a topofit

- (2) First Seen: The first refuge record for the species for the season concerned.
- The greatest number of the species present in a limited interval of time. Peak Numbers:
- (4) Last Seen: The last refuge record for the species during the season concerned.
- Production: Estimated number of young produced based on observations and actual counts.
- (6) Total: Estimated total number of the species using the refuge during the period concerned.

Refuge Hiddenwood Months of May to August 19// 50

	(1) Species	(2 First		(3) Peak Conce		(4) Last S		Young Pr	oduced	(6) Total
	Common Name	Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for Perio
I.	Swans: Whistling swan			react production in the second	ed base counts time tea	All Co	the co bear	That come Thoras Should b	entryses se skristy resident	None
II.	Geese: Canada goose Cackling goose Brant	170V		, n 200 ppn	Decree on	nS, em en		min to gra	Lather HE	None
	White-fronted goose Snow goose Blue goose	Franks	p manust	ng gue abed	av bassa	Trum pro-		roune obs	200	
III.	Ducks: Mallard Black duck	ven to tr	ose sim	100	8/20-31			LEC TO C	H telemotos	250
	Gadwall Baldpate Pintail Green-winged teal			10 20 50			The state of	e se sesso a strengt	s dortry th	10 30 100
	Blue-winged teal • • Cinnamon teal	• • • •	• • • • •	• 100						100
	Shoveller Wood duck Redhead		*:	20	•			1		40
	Ring-necked duck Canvas-back Scaup Golden-eye			20	•			2	16	25
	Buffle-head Ruddy duck			25	(.		lugacija bila			
IV.	Coots			200	•	Kelina u				200
-175										UT

3-1750 (July 1946)

(over)

SIMMARTES

Tota	1 Production:	
G	eese	Total waterfowl usage during period
D	uc ks	Peak waterfowl numbers
С	oots	Areas used by concentrations
	ted bend to the section of the section of	Principal nesting areas this season
		Reported by
		* * * * * * * * * * * * IOO II
	Cheselling and Sea.	INSTRUCTIONS
(1)	Species:	In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance.
(2)	First Seen:	The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.
(3)	Peak Concentra-	The greatest number of the species present in a limited interval of time.
(4)	Last Seen:	The last refuge pecerd for the species during the season concerned in the reporting period.
(5)	Young Produced:	Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
(6)	Total:	Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature of the migrational movement.

Refuge Lake Patricia Months of May to August 194 50

	(1) Species	(2 First		Peak Conc) entration	Last S		Young P	5) roduced	(6) Total
10-2	Common Name	Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for Perio
[I.	Swans: Whistling swan		LSP 1/2/		PTWA (SALE)	110 7	The state of the s			None
II.	Geese: Canada goose	urin 🖠		g = - 1				5		
	Cackling goose Brant	La est No		d par mari	a lamana	70 to 112	- Zitzeru	Lat the	· · ·	None
II.	Ducks:	o files; a				7.5		TOTAL TOTAL	n Labouryus	
.11.	Mallard Black duck	-E 20 .25		300	8/20-30			5	50	400
	Gadwall	AL PERSON		50	12 (0)			4734047	in stripe (6	50
	Baldpate Pintail			200	10			6	80	75 300
	Green-winged teal Blue-winged teal	4.44		200				1	50	4 0 3 00
	Cinnamon teal Shoveller Wood duck Redhead	\$		100						100
	Ring-necked duck Canvas-back				Lugar A	nes.				-6.
	Scaup Golden—eye Buffle—head									
	Ruddy duck				100					
IV.	Coots			100		al a:		Lagra -		100
				3 = _						27

3-1750 (July 1946)

(over)

SUMMARTES

Tota	1 Production:						
G	eese		Total wa	iterfowl usage during	period		
D	ucks		Peak wat	cerfowl numbers	į.	,	
C	oots		Areas us	ed by concentrations_			
			Principa	il nesting areas this	season		
		10)	23	Reported by		<u>, 1</u>] 75
	fritalepakes seen	*****			Ì	77 24	1 10
	hasanayahac perj	INSTRUC	TIONS		G .	20	
(1)	Species:	In addition to the birds listed reporting period should be added given to those species of local	in approp	riate spaces. Specia			
(2)	First Seen:	The first refuge record for the period, and the number seen. Th					· ·
(3)	Peak Concentra- tion:	The greatest number of the speci	es present	in a limited interva	l of time.	2 4	
(4)	Last Seen:	The last refuge period for the speriod.	pecies dur	ing the season concer	med in the	reporting	
(5)	Young Produced:	Estimated number of young produc sentative breeding areas. Brood 10% of the breeding habitat. Es	counts sh	nould be made on two o	or more are	as aggregat	
(6)	Total:	Estimated total number of the sp may or may not be more than that of the migrational movement.					

Refuge Legion Lake Months of May to August 194 50

	(1) Species	(2 First		Peak Conc	entration	(4) Last S		Young P	5) roduced	(6) Total
(4)	Common Name	Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for Perio
I.	Swans: Whistling swan	LPSTATAS I	man of	enny produ mantata mantata	od based d counts all plantes be	ANTON DO DESCRIPTION OF THE PARTY OF THE PAR	LES ON CHO A	sual coun r more ar should b	n on repre-	None
II.	Geese: Canada goose	-ZDG								
(4)	Cackling goose Brant	17.16	ALPIN LARGE	ed for the	species du		American Police	THE TO SE	Weeking fall	None
	White-fronted goose Snow goose	E Kreates	t number	of the spec	les present	In a life	eq popular	of time		
	Blue goose	riod, and	the product	KL SHEDY	DE SUSTAINED	door not a	Dit je La	rquar ste	ras".	
II.	Ducks: Mallard Black duck	100 20 21	ONE THE	100	8/20-51			1	25	200
	Gadwall Baldpate	Control b		25	o the spirit	antipo filma	NA DECUEST	2 absention	to amorti po	30
	Pintail			100				4	50	100
	Green-winged teal Blue-winged teal			200				8	25	200
	Cinnamon teal Shoveller Wood duck	* * * * *		60	•		į pi	1	12	60
	Redhead Ring-necked duck Canvas-back Scaup			20	510 10, 6	er seem pills	tress price	i ann a C		40
	Golden-eye Buffle-head Ruddy duck			25						25
	The same of the sa				E CONTRACTOR OF THE CONTRACTOR	Haraca Da	1 100			20
IV.	Coots			200			Ca jenjuš	Set Join		200

3-1750 (July 1946)

(over)

SUMMARTES

Tota	l Production:						
G	eese		Total wa	terfowl usage during	g period		B, L
D	uc ks		Peak wat	erfowl numbers			
C	oots		Areas us	ed by concentrations	3		h h
			Principa	l nesting areas this	s season		•
			-	Reported by		71	3
	different ages can i	* * * * * * * * * * * * * * * * * * * *	24		2	617	70
	the strain and the fall that	INSTRUC	CTIONS		V	60	70
(1)	Species:	In addition to the birds listed reporting period should be added given to those species of local	in approp	riate spaces. Spec:			
(2)	First Seen:	The first refuge record for the period, and the number seen. The					
(3)	Peak Concentra- tion:	The greatest number of the speci	les present	in a limited inter	val of time.		
(4)	Last Seen:	The last refuge pecerd for the speriod.	species dur	ing the season conc	erned in the	reporting	
(5)	Young Produced:	Estimated number of young product sentative breeding areas. Brood 10% of the breeding habitat. Es	counts sh	ould be made on two	or more are	as aggregati	
(6)	Total:	Estimated total number of the sp may or may not be more than that of the migrational movement.					

Refuge Lake MoLean Months of May to August 194 50

and the suppression of the supersion of the suppression of the supersion of the suppression of the supersion of the supers	ommon Name Number Date Number Date Number Date Number Date Number Date Number Date Number Sess: anada goose ackling goose rant_ hite-fronted goose now goose lue goose ucks: allard lack duck adwall	Date Numb	ber Date	Broods Seen	Estimated Total	Estimated for Period None None
and the suppression of the supersion of the suppression of the supersion of the suppression of the supersion of the supers	histling swan eese: anada goose ackling goose rant hite-fronted goose now goose lue goose ucks: allard lack duck adwall	8/20-\$1		Tree library and the land of t		None 400
and the suppression of the supersion of the suppression of the supersion of the suppression of the supersion of the supers	anada goose ackling goose rant hite-fronted goose now goose lue goose ucks: allard lack duck adwall	8/20-\$1				400
and the suppression of the supersion of the suppression of the supersion of the suppression of the supersion of the supers	hite-fronted goose now goose lue goose ucks: allard lack duck adwall	8/20-31	The second of th			400
and the suppression of the supersion of the suppression of the supersion of the suppression of the supersion of the supers	lue goose ucks: allard lack duck adwall	8/20-\$1		all and product of the	TO SECURITY PROPERTY OF SECURITY PROPERTY PROPERTY PROPERTY OF SECURITY PROPERTY	
and the suppression of the supersion of the suppression of the supersion of the suppression of the supersion of the supers	allard lack duck adwall	8/20-\$1				
rd rd sebbes	adwall	pu sebbana para		ACT OF SEC.	IN THE PARTY AND	20
52 E. L. MP2	aldpate intail 100				de parreir et Li	100
	reen-winged teal lue-winged teal • • • • • • • • • • • • • • • • • • •	•		1	25	150
	hoveller ood duck edhead		- 100	-		
Pakus	ing-necked duck anvas-back caup	Fabrica par ma	110	iga kante		
	uffle-head uddy duck	raser in ep el	· wierf		*	
1	00ts 100	*		V. Office and Associated States		150
	uddy duck					

3-1750 (July 1946)

(over)

SUMMARIES

Tota	1 Production:					
C	eese		Total waterfowl usage during	period		
D	ucks	. 100	Peak waterfowl numbers			760
C	oots		Areas used by concentrations			
				ne e		
	Free break Crasp-mer awn dook consultation in h		Principal nesting areas this	season_		
			Reported by			N
	Managarian 1997	4 2 3 4 8 K V 2 2 A 2 A		- 9	70	-2,4
(1)	Species:	In addition to the birds listed reporting period should be added given to those species of local	on form, other species occurring in appropriate spaces. Species	ng on refuge	during the	700
(2)	First Seen:	The first refuge record for the period, and the number seen. Th				
(3)	Peak Concentra- tion:	The greatest number of the speci	es present in a limited interva	l of time.		
(4)	Last Seen:	The last refuge percent for the speriod.	pecies during the season concer	med in the	reporting	
(5)	Young Produced:	Estimated number of young produc sentative breeding areas. Brood 10% of the breeding habitat. Es	counts should be made on two	or more area	as aggregati	ing
(6)	Total:	Estimated total number of the sp may or may not be more than that of the migrational movement.				

Refuge Pretty Roc: Months of May to August 194 50

	(1) Species	(2 First		(3 Peak Conc		Last S			5) roduced	(6) Total
	Common Name	Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for Perio
I.	Swans: Whistling swan	then by a reaching b	pangati nagati n		ded have a				ne en rejere	None
(e)	Canada goose Cackling goose Brant White-fronted goose	POR S				DE CONTRACTOR				Hone
	Snow goose		Plat dwar		17 × 100 ×	10-10 Today	alibert par b	منا ورواية	744*	
II.	Ducks: Mallard Black duck	sec to the	e, o story	1000	8/20-51			10	100	1500
	Gadwall Baldpate Pintail Green-winged teal			30 150 800	8/20-31 8/20-31 8/20-31 8/20-31			1 8 7	21 58	250 1000 20
	Blue-winged teal Cinnamon teal	28 15 A N	* B # B #	800				1	50	800
	Shoveller Wood duck Redhead Ring-necked duck Canvas-back	• • • •	• • • •	. 200	8/20-31			8	24	200
	Scaup Golden-eye				-			1	7	25
	Ruddy duck	=		20	8/20-31				27/	20
IV.	Coots			500	1 79 8		1		200	800

3-1750 (July 1946)

(over)

SUMMARIES

Tota	l Production:									
G	eese	200	Total waterfowl usage during	period		UP.				
D	uc ks		Peak waterfowl numbers							
C	oots		Areas used by concentrations			,				
			Principal nesting areas this season							
	# *_ 4 >		Reported by		1.4	-				
				7	97					
(1)	Species:	In addition to the birds list reporting period should be add	ed on form, other species occurrided in appropriate spaces. Speci	ng on refug al attentio	ge during the	30				
		given to those species of loca	al and National significance.	70	700	-				
(2)	First Seen:	The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.								
(3)	Peak Concentra- tion:	The greatest number of the species present in a limited interval of time.								
(4)	Last Seen:	The last refuge percent for the species during the season concerned in the reporting period.								
(5)	Young Produced:	Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.								
(6)	Total:		species using the refuge during hat used for peak concentrations,							

Refuge Stewart Lake Months of May to August 194/50

	(1) Species	(2 First		Peak Conce		(4) Last So	een	Young P	5) roduced	(6) Total
(8)	Common Name	Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for Perio
I.	Swans: Whistling swan	SIESSES DE CONTRACTOR DE CONTR	placer. Leagra	roms Process	od baser countral al bise bes be	eing no be	The section of the se	cesi com T nore ar	e outted.	None
II.	Geese: Canada goose	Piod.								
	Cackling goose Brant	THE LE	LIFE THE	ed first the p	pectes du	lar die in	CON CIRC	FE PR	Capara tag	
	White-fronted goose Snow goose	CONTRACTOR	g manpar	T My shed	jer brenchi	THE DAY	ed Interv	of the		None
	Blue goose	riod, and	the much	si seen' l	gra soymu	toer not a	ply to re	arqetir sbe	745	
II.	Ducks: Mallard Black duck	10m 2x 181	or a part	1200	8/20-51			1	10	1500
	Gadwall Baldpate	DESTRUCTION OF THE PARTY OF THE		800	TO ITOURS	A Part - House	of the same	T Try to 1	o destrict on	1000
	Pintail Green-winged teal			200	•			1	50	400
	Blue winged teal Cinnamon teal			. 1600	•			, Y ₀	\$0	2000
	Shoveller Wood duck			200	•				20	200
	Redhead Ring-necked duck Canvas-back				- Branch Land	unit (12)	Lova ciga	201101		
	Scaup Golden-eye									
	Buffle-head Ruddy duck				eracina (s	M WAR	enter de la constante de la co			
TV.	Coots				ACH KIMP	They like	15.18			
				200	1000	series; me	HEAT YELT US	butatisq	98	200

3-1750 (July 1946)

(over)

Form NR-1

SUMMARTES

Tota	l Production:	SUR	MARLES				
G	eese		Total w	vaterfowl usage during p	period	- 15	3
D	ucks		Peak wa	terfowl numbers			
C	oots	-	Areas u	sed by concentrations_			
			Princip	al nesting areas this s	eason		
			-14	Reported by		27	N 26
	Compagnition part	* * * * * * * * * * * *	- B			20	2606
(1)	Species:	In addition to the birds listed reporting period should be added	on form,				400 3 1000
	Bleuk bauk	given to those species of local			L addendio	n Shouta be	
(2)	First Seen:	The first refuge record for the period, and the number seen. The					3 200
(3)	Peak Concentra-	The greatest number of the speci	es presen	t in a limited interval	l of time.		
(4)	Last Seen:	The last refuge percent for the speriod.	pecies du	ring the season concern	ned in the	reporting	
(5)	Young Produced:	Estimated number of young product sentative breeding areas. Brood 10% of the breeding habitat. Estimated number of young product sentative breeding habitat.	counts	hould be made on two or	r more are	as aggregat:	ing
(6)	Total:	Estimated total number of the sp may or may not be more than that of the migrational movement.					

Note: Only columns applicable to the reporting period should be used. It is desirable that the <u>Summaries</u> receive careful attention since these data are necessarily based on an analysis of the rest of the form.

Refuge White Lake Months of May to August 19/ 50

	(1) Species	(2 First		Peak Conc		(4) Last S		Young P	5) roduced	(6) Total
177	Common Name	Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for Perio
I.	Swans: Whistling swan			PRO DE M	In a set of the		ornant fes	a most p	n darri darr ara alliculora manasi dalica	None
II.	Geese: Canada goose				-					
	Cackling goose Brant White-fronted goose Snow goose	a Tanger		t spe spec	huesett					None
	Blue goose		place mercija	EL Soull' I	Til year	naka Dur	det or o		y abt	
III.	Ducks: Mallard Black duck	e Mins		200	8/20-31	ikně rpe		1	10	300
	Gadwall	Entropid la		25	The Control of the Co		ALC: THOUSE	A Sent A	10	250
	Baldpate Pintail Green-winged teal			200					20	300
	Blue winged teal			. 200	**				20	\$00
	Shoveller Wood duck Redhead			50	•					50
	Ring-necked duck Canvas-back Scaup		*		, wymite	restring	Temps IN.			
	Golden-eye Buffle-head								* 15.	
	Ruddy duck				* Is traised in				,	
IV.	Coots						2			100
6					-					63

3-1750 (July 1946)

(over)

Form NR-1

SUMMARTES

Tota	1 Production:	SUMM	ARLES	
G	eese		Total wate	rfowl usage during period
D	uc ks		Peak water	fowl numbers
C	oots		Areas used	by concentrations
			Principal	nesting areas this season
		* * * * * * * * * * * * * * * * *	a.	Reported by
	AND SERVICE OF SERVICES	INSTRUCT	TONS	
(1)	Species:		in appropri	er species occurring on refuge during the ate spaces. Special attention should be significance.
(2)	First Seen:	The first refuge record for the speriod, and the number seen. Thi		ng the season concerned in the reporting es not apply to resident species.
(3)	Peak Concentra- tion:	The greatest number of the specie	s present i	n a limited interval of time.
(4)	Last Seen:	The last refuge pecerd for the sp period.	ecies durin	g the season concerned in the reporting
(5)	Young Produced:	sentative breeding areas. Brood	counts shou	observations and actual counts on repreded be made on two or more areas aggregating on basis in fact should be omitted.
(6)	Total:			the refuge during the period. This figure ak concentrations, depending upon the nature

Note: Only columns applicable to the reporting period should be used. It is desirable that the <u>Summaries</u> receive careful attention since these data are necessarily based on an analysis of the rest of the form.

of the migrational movement.

Refuge District IV Easements, as listed; Months of May 194 50

			common name.	Use correct	(1) SPECIES:
(1) (2) Species Density	(3) Young Produced	(4) Sex Ratio	(5) Removals	(6) Total	(7) Remarks
Cover types, total per acreage of habitat Bi	se se se	Percentage	Hunting For Restocking For Research.	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
Pheasant Sharp-tailed Grouse Hung. Partridge	Figures submit	possible.	nd hardwoods, to, stand to as and counts of area or area or area or area.		
Pheasant Sharp-tailed Grouse Hung. Partridge	10	habitat.	mber of young	30	(3) YOUNG PRODUCED:
LAKE PATRICIA Pheasant Sharp-tailed Grouse	None 100		Idaliava ii ac	150	(4) SEK PATIO:
Hung. Partridge	20	wier eds gn	au nedmun Isjo	40	(6) TOTAL:
Pheasant Sharp-tailed Grouse Hung. Partridge	None 20 15 30	stermine pops	hod used to d		(7) REMARKS:
NoLean Pheasant Sharp-tailed Grouse Hung. Partridge	None 10 20		period covere	10 15 25	oilqqa anmuloo ylaO *
£191					622

Refure District IV Essenants, as listed: Months of

Form NR-2 - UPLAND GAME BIRDS.*

(1)	SPECIES:	Use correct	common name	• The state of the state of	
	Fres.	1 777		1	

- Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series

 No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
- (3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.
- (4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.
- (5) REMOVALS: Indicate total number in each category removed during the report period.
- (6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.
- (7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

Sharp-tailed Groups Hung. Partridge

Share-tailed Gre

^{*} Only columns applicable to the period covered should be used.

to August , 19/4/ 50 Refuge District IV Resements, as listed: Months of May (3) (4) (6) (1) (2) (5) (7) Density Young Sex Remarks Species Removals Total Produced Ratio Number broods obs'v'd. Estimated Total For Research fuge manager as to For Restocking tine r Estimated Hunting once submitted, ti er type for Acres number Pertinent information not Cover types, total specifically requested. per using acreage of habitat Bird Refuge List introductions here. Common Name Percentage PRETTY ROCK Idlife Management Pheasant None ard type sy DENB 50 Sharp-tailed Greuse possible. 16 ra se BTE ed 50 20 S OF Hung. Partridge areas should be 0 88 s el STEWART LAKE mon opervations and actual cou 010 umber of young produced, be 20 Pheasant . Jatidad anthord ovits: 20 50 Sharp-tailed Grouse Hung. Partridge turkey, phesents, etc. Include da his column applies primarily to wild (A) SEX RATIOS Idaliava li seipega redi WHITE LAKE Phonsant Sharp-tailed Grouse ndigote to al nimber in each categor 10 20 during the report period. This m Hung. Partridge Isted bedsmits umber using the refug mistres guitub eguier edi ojni mijargim esodi aviq ebrid ineb ser ebulon . vavus at berevo sers bas meijaligog enimnetb of best bodiem etseibn bedseauger vileofitiones don nolisamonit inentitee redio ebulon been ed bluode berevoo betreg ed of eldebilgga ammuloo viso * Cas:

INSTRUCTIONS

Form NR-2 - UPLAND GAME BIRDS.*

((1)	SPECIES:	Use	correct	common	name.	

Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.

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- (3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.
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^{*} Only columns applicable to the period covered should be used.

WATERFOWL

Refuge Clear Lake Easement Months of May to Aug. 194 50

¥	(1) Species	(2) First Seen		(3) Peak Concentration		(4) Last Seen		(5) Young Produced		(6) Total	
	Common Name	Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for Perio	
I.	Swans: Whistling swan		CARCADA CACADA MEDICAL	Sangasa B Sanga Buda Anga Buda			ALIE ON HAC	a attició de la composició de la composi	on on white		
II.	Geese: Canada goose										
	Cackling goose Brant White-fronted goose									None	
	Snow goose Blue goose	la Sainte			1 3 - A	W = 300	THE PARTY	Arres im			
I.	Ducks:			esd for an	B. St.				es Labésagui		
	Mallard Black duck	etaul sa h		to ou most	our prints	n mann	STREET, STREET	1	20	200	
	Gadwall Baldpate	SERVER.		STOTAL SERVICE	10 2000 00 3000 00 3000	mare sie	ne statisk		es among a	50 25 100	
	Pintail Green-winged teal			10-20							
	Blue-winged teal Cinnamon teal						1	7	75	150	
	Shoveller Wood duck				V PAR					25	
	Redhead Ring-necked duck							2	30	50	
	Canvas-back Scaup Golden-eye				Entrace	L nessating	2,690 (1)	1	10	50 25	
	Buffle-head Ruddy duck				10000	67 ph 06	ades gray ou	1	15	50	
v.	Coots				THEFT AN	DIA SET SE	out of the	2	10	200	
e e					- NAME A	TACIDAT 1	e rea year	in the second		0 (

3-1750 (July 1946)

(over)

Form NR-1

SUMMARTES Total Production: Geese Total waterfowl usage during period 925 Peak waterfowl numbers Coots Areas used by concentrations Principal nesting areas this season Reported by Claude R Alexander INSTRUCTIONS (1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. (2) First Seen: The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species. (3) Peak Concentra-The greatest number of the species present in a limited interval of time. tions (4) Last Seen: The last refuge record for the species during the season concerned in the reporting period. Estimated number of young produced based on observations and actual counts on repre-(5) Young Produced: sentative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted. (6) Total: Estimated total number of the species using the refuge during the period. This figure

Note: Only columns applicable to the reporting period should be used. It is desirable that the <u>Summaries</u> receive careful attention since these data are necessarily based on an analysis of the rest of the form.

of the migrational movement.

may or may not be more than that used for peak concentrations, depending upon the nature

WATERFOWL

Refuge Shell Lake Research Months of New to Aug 194 50

	(1)	(2)		(3)		(4)		(5)	(6)
	Species	First	Seen	Peak Conce	entration	Last S	Seen	Young P		Total
	Common Name	Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for Perio
I.	Swans: Whistling swan			Authorities in Author					the difficulty	
I.	Geese: Canada goose	i iov								
	Cackling goose Brant White-fronted goose									None
	Snow goose Blue goose					COOK SOP				
I.	Ducks: Mallard			old for the		LINE ALE	Telephone sport	CONTRACTOR OF THE PARTY OF THE	70	500
	Black duck			400 OL 15005					10	800
	Gadwall Baldpate Pintail			Allene Tracks	and total			2	50 80 50	300 200 400
	Green-winged teal Blue-winged teal							2	8	30
	Cinnamon teal Shoveller					Substant	19 13 15	2	50	30 0
	Wood duck Redhead									75
	Ring-necked duck Canvas-back				100000	or manual	eases sure	arecon.		35
	Scaup Golden-eye								5 100	125 36
	Buffle-head Ruddy duck				-	1 37 SL 10	a kuşı diği om			150
					2007	- CALL IN	A COLUMN		V	
1.	Coot:					- series	and the orași de	BOLFS!	Service Control	1000

3-1750 (July 1946)

(over)

Form NR-1

Tota	l Production:	SUMMARLES
G	eese	Total waterfowl usage during period 3145
D	ucks 228	Peak waterfowl numbers
C	oots	Areas used by concentrations
		Principal nesting areas this season
		Reported by Claude R. Alexander
		INSTRUCTIONS
(1)	Species:	In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance.
(2)	First Seen:	The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.
(3)	Peak Concentra-	The greatest number of the species present in a limited interval of time.
(4)	Last Seen:	The last refuge pecerd for the species during the season concerned in the reporting period.
(5)	Young Produced:	Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
(6)	Total:	Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature

Note: Only columns applicable to the reporting period should be used. It is desirable that the Summaries receive careful attention since these data are necessarily based on an analysis of the rest of the form.

of the migrational movement.

WATERFOWL

Refuge Zahl Easement Months of May to Aug. 194 50

	(1) Species	(2) First Seen		(3) Peak Concentration		(4) Last Seen		(5) Young Produced		(6) Total	
	Common Name	Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for Period	
I.	Swans: Whistling swan	ATTENTION	SEASOTTE S	Laborate State	SOUTH STATES	rents pe	Acres (S. 1864) Acres (N. 2864) Acres (N. 2864)	P PANETAL 257 PROLES SA LEGIS COLL	inde angerings inde angerings in outlied		
II.	Geese: Canada goose								and their sorth		
	Cackling goose Brant White-fronted goose									None	
	Snow goose Blue goose			AT SUCK SEA		TE O TO	india es r				
II.	Ducks: Mallard	W. C. PERA			eherres u	C.T.C. CHI	LEASEN HOU	2	50	400	
	Black duck Gadwall Baldpate			myt, for som Utigt Issen		Carlo ab		2	25	200 75	
	Pintail Green-winged teal Blue-winged teal			17800	1.22			3	50	350	
	Cinnamon teal Shoveller					Tuelye (s		1	135 25	500 75	
	Wood duck Redhead Ring-necked duck							•	40	550	
	Canvas-back Scaup Golden-eye					a village	esare con	Substitute of the substitute o	40	550 550	
	Buffle-head Ruddy duck				y interest	de pa con	a superfuly bu			50	
LV.	Coots				Links at	Zijeky in	nigata Tira		\$ -		
					- CA1267 1	MACIONI	nesse ones	intro		2500	

3-1750 (July 1946)

(over)

Form NR-1

Tota	1 Production:	SUMMARIES
G	eese	Total waterfowl usage during period 5800
D	ucks 405	Peak waterfowl numbers
C	oots	Areas used by concentrations
		Principal nesting areas this season
	CONTROL COLD	Reported by Claude R. Alexander
		INSTRUCTIONS
(1)	Species:	In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance.
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(4)	Last Seen:	The last refuge peccent for the species during the season concerned in the reporting period.
(5)	Young Produced:	Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
(6)	Total:	Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature

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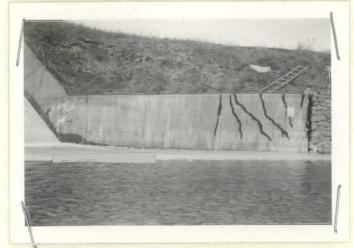
of the migrational movement.



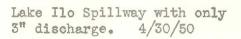
Lake Ilo Spillway at peak runoff. 4/15/50



Lake Ilo Spillway with 30" water being discharged. Note wingwalls are within several inches being topped. 4/15/50



Cracked portions wing-wall Lake Ilo Spillway 4/30/50. Wall has been pushed out 12" by frost action and is in danger of tipping completely.





Winter fishing success at Lake Ilo. March, 1950



Pretty Rock Spillway snow removal 3/24/50. Similar channels cut through snow on 3 separate occasions.



Pretty Rock Refuge township road damaged by high water in April, 1950. Road was topped by $2\frac{1}{2}$ water.





Pretty Rock Refuge main dike only slightly damaged by floods of April, 1950.



Stewart Lake Refuge showing damage to spillway from peak run-off, April, 1950.

Stewart Lake Spillway showing settling of rock spillway on east side, April 1950.



Stewart Lake spillway settling of rock spillway on west side. Center portion remained in place, April, 1950.



LAKE ILO REFUGE

LAKE ILO REFUGE

I. GENERAL

A. Weather Conditions.

Precipitation was above normal at the Lake Ilo Refuge during the report period. 6.44" of precipitation was received in the form of snow during the period with 14" in January, 5" in February, 20" in March and 13" in April. The largest amount of snow on the ground at one time was during March. January was the coldest on record in North Dakota, 17.2 degrees below normal and 32.2 degrees below January of 1946. February, March and April were colder than normal, and this spring is believed to be the latest spring on record. Several inches of snow was on the ground at the end of the report period and no farming has been accomplished in this area to date. Usually most of the small grain has been seeded by the first of May. The spring run-off occurred on the 15th of April, approximately 25 days later than normal. Following is data on maximum and minimum temperatures and precipitation during the periods

Month	Precipitation	Snowfall	Max.Temp	Min. Temp.
January	1.60	14"	41	-43
February	•33	5 ¹¹	45	-25
March	1.61	20 ⁿ	48	-25
April	1.90	13"	63	12
Tota	1: 5,44	52"		

B. Water Conditions.

The Lake Ilo ice level was 24" below spillway crest at the beginning of the period and remained at this level until March 23. On this date the water level began increasing and came up to 4" below spillway crest by 6:00 P.M. On April 24 a small stream was flowing over spillway crest and continued to run over spillway for the remainder of the report period. Water level reading on the following dates 3/27, 4"; 4/7, 6"; 4/9, 5"; 4/11, 4"; 4/12, 7"; 4/13, 8"; 4/14, 12"; 4/15, 1.8' at 8:00 A.M. 2' at 6:00 P.M. and 2.3' at 10:00 P.M; 4/16, 2'; 4/17, 18"; 4/18, 12"; 4/21, 5". The level has continued to recede and is only 3" above spillway crest at the present time. The ice level was measured the later part of February and found to be 36" thick. Approximately 2/3 of the lake is covered with ice at the close of the period.

C. Fires.

None.

II. WILDLIFE

A. Migratory Birds.

Approximately 600 mallards used the refuge during part of January, February and March. At times no ducks would be observed for days but they would reappear from time to time. The lake was completely frozen over during the winter months but they would sit on the ice and stay in crest below dam on the refuge. The first waterfowl migrants appeared on March 4. On this date 23 Canada geese were seen on the refuge and 75 Pintail were seen on March 28. The spring migration was very slow and late and the number of migrants was fewer than can be recalled in the past. On April 6 it was estimated that 3,000 ducks and 60 Canada Geese were on the refuge. The ducks consisted mostly of Mallard and Pintail with a few Scaup, Shoveller and Baldpate. 300 snow geese and one blue goose was seen on April 13 and several flocks were seen during the next week. No white fronted geese were seen on the refuge during migration. A small number of sandhill cranes used the refuge but it is believed their numbers were smaller than last year. Shore bird migration has been very poor with only the following having been observed. A few Killdeer and Willett. A few Franklin's and Ring-Billed Gull have been observed using the refuge.

B. Upland Game Birds.

It is estimated that 300 pheasants used the refuge during the period. About 200 pheasants were using the area at the close of the period and it appears that there are less hens than there were last fall or early winter. Winter loss was small, but a few dead birds have been observed from time to time after some of our more severe blizzards. A few partridge and sharp-tailed grouse have been observed on the refuge during the period. It is believed their number is smaller than last year. The sharp-tailed grouse population is believed to be larger in the near vicinity, such as the badlands to the north.

C. Big Game Animals. None.

D. Fur Animals, Predators, Rodents, and other Mammals.

The long cold winter may have resulted in the loss of a few muskrats due to our low water level, but a good breeding stock remains on the refuge. 60 muskrats were trapped during the season, 58 in December and 2 during the report period. Very few muskrats were trapped in this vicinity due to the cold weather and low prices. 4 Mink were trapped during the period. Additional mink would have been trapped if the weather had not been so severe. A number of mink signs have been observed this spring, and about 15 to 20 are using the area at this time. Two weasels were trapped during the season and several have been seen on the refuge during the period. Their number is believed to be larger than it has been for a number of years. Three coyotes and one fox have been seen on the refuge during the first part of the period. A number of coyotes and one fox were killed near the refuge by the Predator and Rodent Control Division, but there are very few coyotes remaining in this locality. One beaver was trapped by the share-trapper and we now feel that this was the only one on the refuge. as no signs have been observed recently near the place where this

beaver was trapped. Tracks were observed however below spillway where one had come up the creek. More cottontail and Jack rabbits are present on the refuge than there have been for a number of years.

E. Predacious Birds, Including Crows, Raven, Magpies.

The first crows appeared on the later part of March and a few have been passing through ever since, but it is believed that less crows migrated through this vicinity than in the past. A number of Golden Eagles have been observed during the winter. The last one seen was on April 30. Less Marsh Hawks have been observed this spring and only a few are using the area at the close of the period. A few Prairie Falcons were present in January and February. A large number of Sparrow Hawks were observed during the first part of April.

F. Fish.

Winter fishing was permitted from December 1 to March 31 and a large number of fishermen used the area when the weather was fit. On January 22 4 cars of fishermen were observed fishing on the lake. The weather was cold and snowing. February 5, 24 cars of fishermen observed fishing on lake. February 26, 25 fishermen, March 5, 24 fishermen, March 12, 12 fishermen, March 19, 22 fishermen were seen on the Lake. On March 31 6 fishermen were observed fishing on the lake and they caught 73 Perch and 3 Crappies.

The principal catch during the season was Perch and a few Crappies were taken during the later part of February and March. A number of Bass were caught and had to be returned to the water. One fisherman caught 6 in two hours. One Wall-eyed Pike was reported caught that measured 18" long. A number of fishermen were checked that had 25 perch each. Only one fisherman was checked that had as many as 15 crappies and he caught these before 8:00 oclock in the morning.

During the run-off a large number of Blue-gills were observed stranded in grass and brush along creek banks below spillway and some of these fish would possibly weigh up to one pound. The public generally considered the ice fishing as very good and a larger number of fish would have been cought if the winter had not been so severe.

III. REFUGE DEVELOPMENT MAINTENANCE

A. Physical Developments.

The following maintenance and construction projects were completed during the period:

- 1. Repaired Delco light plant, installed new block assembly, main bearings. Serviced and minor repair on IHC Pickup #I-16949.
- 2. Took annual waterfowl inventory.

- 3. Worked on chicken house and barn that was started last period. (80% completed.)
- 4. Repaired tools.
- 5. Hauled coal for heating garage and office from local mine and hauled ashes away from headquarters.
- 6. Filled cracks in down stream spillway walls with tar.
- 7. Opened refuge roads several times during winter. Refuge road blocked with snow off and on most of the winter.
- 8. Checked and watched spillway and dam during spring run-off.
- 9. Removed snow from control culverts and road culverts. Opened channel in snow around island so as to let water into south portion of refuge.
- 10. Fastened garage and chicken house to foundation that was built last fall.
- 11. Repaired 40% of refuge boundary fence that was damaged by snow.
- 12. Made temperary repair to creek crossing on refuge road below dam.
- 13. Opened septic tank at headquarters. Cleaned tank and built concrete cover for septic tank.

B. Plantings.

No grain crops are to be planted by refuge personnel. The following cooperative farming permits are in effect for the agricultural land on the refuge.

Permit No. 18707 Tom Donohoe 45 acres corn and wheat. Permit No. 18706 Charles Schollmeyer 85 acres barley and wheat.

One-half of the land under permit to Mr. Donohoe will be seeded and 1/2 summer fallowed. One of the land has been seeded to date. The refuge share will be corn.

One-half of the land under permit to Mr. Schollmeyer will be summer fallowed. None of the land has been seeded to date. Refuge share will be wheat or barley.

IV. ECONOMIC USES.

- A. Grazing. None this period.
- B. Haying. None this period.

C. Fur Harvest.

A trapping permit was issued to Mr. A. B. Rosendahl of Dunn Center, North Dakota to authorize the taking of Mink, Skunk, Weasel, Coyote, Badger, Muskrat and Beaver. The mink, weasel, muskrat and beaver pelts to be shared on a 50-50 basis and the trapper is allowed to take all the pelts of the other animals. The total take was 4 mink, 60 muskrats, 2 weasel and 1 badger, also 1 beaver. No trapper was done after February 1 due to the snow and cold weather.

V. FIELD INVESTIGATION OR APPLIED RESEARCH

A. Bird Banding. None.

VI. PUBLIC RELATIONS

A. Recreational Uses.

The lake Ilo Recreational Area, maintained under cooperative agreement by Dunn County, has not been used this period due to the late spring. Trees are to be planted in the new addition that was summer fallowed last year. Other trees are to be cultivated and fence placed around addition.

DOOWNEDDIH

I. GENERAL.

The snowfall was above average in this vicinity and the winter was colder than normal. The spring run-off was much later than usual and the lake was covered with snow and ice when visited on March 9 and April 25.

The water level was 20" below spillway at the beginning of the period and was 5" below at the end of the period.

II. WILDLIFE.

A trapping permit was issued to remove mink, skunk, badger, fox and muskrat from the refuge. No report has been received to date.

III. PHYSICAL DEVELOPMENTS.

Birds observed and water level checked. No structures on this area.

LAKE PATRICIA

I. GENERAL.

The snow-fall in this area was above normal through the winter and spring. The refuge was visited once during the period on April 26. The structures were checked. The spillway appeared to be in good condition with the exception of a small amount of riprap that had settled down at the end of north down stream wing wall. The dike appeared to be in good condition with the exception of some wash by wave action on face of dam. Water level on March 26 was approximately 3" above spillway crest. The peak run-off was approximately 16" above spillway crest and this occurred on April 15. The run-off this year was the largest since the area was constructed.

II. WILDLIFE.

Of all the easements visited this spring, this refuge supported the

better migratory bird population, and with a little fresh water from time to time during the summer months it should be an excellent haven for wildlife.

III. PHYSICAL DEVELOPMENTS.

Structures checked and observed wildlife.

LEGION LAKE

I. GENERAL.

The snow-fall was below normal in this area this winter. The ground was partially covered with snow when visited on April 27. The ice level was approximately 15" below spillway crest at the beginning of the period with the peak run-off being 1 foot above spillway crest. The water level on April 27 was 2" above spillway crest.

II. WILDLIFE.

A trapping permit was issued to two local parties to remove furbearing animals from the refuge. 48 muskrat and 3 mink were trapped during the season. The area is badly overgrazed and does not provide a maximum amount of food and cover for wildlife.

III. PHYSICAL DEVELOPMENTS.

- 1. Structures were inspected on March 9, 1950.
- 2. Cracks in spillway were filled with mastic tar on March 21, 1950.
- 3. Structures were checked and birds observed on April 27, 1950.

MoLEAN

I. GENERAL.

This area was visited on three dates, March 9 by Mr. Dinkins, March 23 by Messrs. Dougall and Fermanich and on April 25 by Messrs. Fermanich and Lindmeier. The snow-fall was average this period with a late spring and the peak run-off occurred about April 15. The water level was 2" over spillway on April 25.

II. WILDLIFE.

Migratory birds using the refuge on April 25 were few in number, although the lake was free of ice, while this is an excellent shorebird concentration area, only Killdeer were observed on our last visit.

III. PHYSICAL DEVELOPMENTS.

Structures were inspected on March 9 and 23, and on April 25. Repairs to the spillway for which funds are available will be accomplished this spring as soon as roads permit.

PRETTY ROCK

I. GENERAL.

Snowfall was considerably above normal in this vicinity. It was reported that between 70 and 80th of snow was received during this period. The spring run-off was the largest ever recorded in this area and it is believed it was the latest. The water level at the beginning of the period was only a few inches below the spillway crest. The peak runoff occurred on April 15 and the water level was the highest ever recorded since the area was built. The peak run-off reached 4 feet above spillway crest and a small amount flowed over dike but did not cause much damage to the dike. About 4" of water was flowing over the spillway when visited on April 26. The structure was thoroughly inspected on April 26 and a small hole was found in the slope of the spillway in a crack that runs from wall to wall. Some wash below the opening is present but the estimated amount of damage could not be determined on this date due to the amount of water still going over the spillway. Water is entering the hole however and it appeared that a small portion of the bowl below had been forced out to permit the release of this water. Water flowed over the highway on the west end of the area approximately 1 foot deep. Most of the scoria was washed off the surface of the road and deposited on the shoulder rocks. A small amount of additional rock are needed to repair shoulders of road grade.

II. WILDLIFE.

Considering the poor weather to date a fair number of waterfowl were using the refuge. Shorebirds were not present. The ring-necked pheasant population is below normal in this vicinity. It is possible that there was a large winter kill. It is estimated that 30 are using the area this spring.

A trapping permit was issued to a local party. 4 mink were trapped during the season. These were sold by the trapper for \$100.00.

III. PHYSICAL DEVELOPMENT.

- 1. A channel was shoveled through snow in spillway four times this spring on the following dates 3/10, 3/24, 4/5 and during run-off 4/15 by the local farmers. The bridge on the highway was also opened on 4/5 by refuge personnel and 4/15 by farmer.
- 2. Structures were checked on April 27, 1950.
- 3. Birds observed on April 27.

STEWART LAKE

I. GENERAL.

Precipitation and snowfall was below normal during the first part of the period. The snow-fall was above normal during March and April. The spring run-off was much later than usual this year. The water level was approximately 2 feet below spillway crest at the beginning of the period and remained at this level until the later part of March when the water level raised to 15 inches below spillway crest. The peak run-off occurred on April 15 and the water level reached a height of 34" above spillway crest. This is the highest water level recalled for this refuge. On April 20 approximately 3" of water was flowing over the spillway, and on April 26 a small stream was flowing over the spillway. The area was visited on March 17 and structures were checked. The area was inspected on April 20 and structures were checked. The dam appeared to be in good condition. The spillway was found to have been damaged by the high water during the run-off. This spillway is constructed out of loose rock. These rocks settled on the slope and a portion of the side walls settled also. It is estimated that 300 cu. yds. of rock would be required to repair the spillway.

II. WILDLIFE.

When visited on April 20 the following birds were observed. 2,000 mallards and Pintails, 200 Blue-winged teal, a few shovellers and Scaup, 5 American Mergansers, and 5 sharp-tailed grouse. Very few ring-necked pheasants were observed in this vicinity during the period but it is believed a few are using the area. A few sharp-tailed grouse and Hung. Partridge are using the area.

Two trapping permits were issued to local parties on area. No report received to date on results.

III. PHYSICAL DEVELOPMENTS.

- 1. Structures inspected on March 7, April 20 and 27, 1950.
- 2. Birds observed on April 20 and 27.

WHITE LAKE

I. GENERAL.

Precipitation and snowfall was below normal during January and February and above normal during March and April. The spring run-off was very late in this area. The water level was 20" below spillway at the beginning of the period, but had raised during the first part of March and started flowing over the spillway on March 10. When visited on March 17 a small stream was flowing over the spillway.

On April 15 the peak run-off occurred and on this date the water level reached 34" above spillway crest. A small stream was flowing over the spillway on April 27, when last visited.

II. WILDLIFE.

Birds observed on April 20 included 17 Canada Geese, 200 blue-winged teal, 500 pintail, 200 mallards, 12 shovellers and 3 pheasants. Migration has also been poor in this area due to the late cold spring.

A trapping permit was issued to remove fur-bearing animals on this refuge, but due to cold weather none were trapped. It is believed a few mink, muskrat and skunk are using the refuge.

More ring-necked pheasants were observed in this area than last year. It is believed a few pheasant, sharp-tailed grouse and Hungarian Partridge are using the refuge.

III. PHYSICAL DEVELOPMENTS.

- 1. Structures inspected on 3/17, 4/20 and 4/26.
- 2. Wildlife observed on 4/20 and 4/26.

OV temanich

WATERFOWL
MONTHS OF J. ary to April , 19 50

(1)	(2)		(3			4)	hum" creb	(5)	(6)
Species	First Mig	rants Seen	Peak Conc	entration	_Last Mig	rants Seen		Produced	Total
Common Name	Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for Period
	Sentati	AS DISSOTU		Lood bours	a pronte p	a made on	CMO OL E	ore areas ag	gregating
. Swans:		ed muniper		And the second s	ag ou ppas		nd gotua	counts on	repre-
Whistling swan						•			
	pariod.						· /		, e
. Geese:	JUG TEL	r reinge r	100	re spactes	during th	o mosses s	опсетнед	in the repo	rting
Canada goose	23	3/4	100	4/6-10	60	4/10			200
Cackling goose		,							
Brant	The gro	atest numb		pecies pre	sent in a	limited in	terval o	f time.	
White-fronted goose	None Seen	. /==		. /	-	1/00			-
Snow goose	300	4/13	600	4/15-20	200	4/23	o reside	ot species.	800
Blue goose	170 111	4/13		the apacia	s during 6	ne season	porcerne	I in the rep	10
. Ducks:									
Mallard	600	1/1	1200	4/6-15	TOHET STE	pificance.			2000
Black Duck	600	ng veriod	apo 1200 pe s	4/0-E0	Common	spaces. S	pecial a	ttention sho	2.7 cf draw
Gadwall	2	TION TO TH	o birds lis	4/20-50	m, other s	pecies coo	nrring o	a refuge dur	50
Baldpate	75	4/20	150	4/20-30	3				300
Pintail	75	3/28	1200	4/6-20	9				2000
Green-winged teal	. 8	4/6	20	4/20-30					20
Blue-winged teal	20	4/18	200	4/21-30					200
Cinnamon teal	20	4/10	200	4, 21-00	Repo	rted by	Short An	y M. Shekara	800
Shoveller	4	4/6	75	4/20-30					100
Wood duck		4/0		2/ 20-00	-		* 65		200
Redhead	17	4/20	80	4/20-30					100
Ring-necked duck	7	4 /400		3, 20 00	cipal nest	ing areas	this sea	502	
Canvas-back	5	4/20	50	4/20-30					100
Scaup	200	4/6	600	4/20-30					800
Golden-eye	2	4/20	10	4/20-50		0.000.000.000			70
Buffle-head	3	4/20	15	4/20-30	s used by	concentrat	ions Opt	n withor area	20
Ruddy duck	20	4/30	40	4/20-30	Waterfow	numbers			40
Bucks				-, B	waterfow	armine ra		4,570	
Casse	activation in the	_		70.00	T METOLIA	r nagge qu	true bor	10d 6,700	
				10.4.5	1 metorcon	I mono de	24 24 10 20 20	777	
Coot:	None seer	to date.							Form NR-

(June 1949)

(over)

100				SUMMARIES	
Total Production:		to date.			Form NR-
Geese				Total waterfowl usage during period 6,750	
Ducks	- 30	4/20	90	Peak waterfowl numbers 4,370	
Coots	- 8	4/20	10	Areas used by concentrations Open water areas.	30
Seaup	1500		000	4\80480	800
	22	4/30	80	V/10-00	700
Redbeed * * * * * * * * * * * * * * * * * *	* 74	#\so	80	Principal nesting areas this season	750
			75	A street and the stre	40.50
			-		3.400
		4/18	200	Reported by Chesley M. Dinkins	
Green-winged teal	8		80	4/50~50	
Baldpare	40	40.00	180	INSTRUCTIONS	200
	given to	those spe	ecies of 1	added in appropriate spaces. Special attention should ocal and National significance.	
(2) First Seen:				the species during the season concerned in the report. This column does not apply to resident species.	ting
(3) Peak Concentration:	The grea	test numbe	er of the	species present in a limited interval of time.	
(4) Last Seen:	The last period.	refuge re	cord for	the species during the season concerned in the report:	ing
(5) Young Produced:	sentative	e breeding	areas. 1	roduced based on observations and actual counts on rep Brood counts should be made on two or more areas aggre . Estimates having no basis in fact should be omitted	egating
(6) Total:	may or ma		more than	he species using the refuge <u>during the period</u> . This to that used for peak concentrations, depending upon the	

Note: Only columns applicable to the reporting period should be used. It is desirable that the <u>Summaries</u> receive careful attention since are data are necessarily based an analysis of the rest of the form.

(June 1949)

WATERFOWL
MONTHS OF Jan y to April , 19 50

(1) Species	First Mig	(rants Seen	Peak Conce		_Last Migr	1) rants Seen			(6) Total
Common Name	Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for Period
1. Swans: Whistling swan		ted number	of young pr g areas. B	oduced bas rood count					
2. <u>Geese</u> : Canada goose Cackling goose	The la	st refuge r	scord for t	ne spacies		a season o	phostned		Tting
Brant	period	eard the n		This col	nun does'n	ot apply to	o reside		orting
3. <u>Ducks</u> : Mallard Black Duck Gadwall Baldpate	report			ded in ap	propriate	spaces. S		n refuge dui ttention sho	
Pintail Green-winged teal Blue-winged teal Cinnamon teal Shoveller	2		Hone obser	ved. Enti		ound 4/30/	50.	A A	
Wood duck Redhead Ring-necked duck Canvas-back				<u> </u>	cipal nest	Ing areas	this sea	son	
Scaup Golden-eye Buffle-head Ruddy duck						concentrat	ions		
4. Coot:					l waterfow waterfowl	l usage du numbers	ring per	Yoq	Form NR

(over)

SUMMARIES

Total Production:		Form NR-1
Geese		Total waterfowl usage during period
Ducks		Peak waterfowl numbers
Coots		Areas used by concentrations
King-necked duck		Principal nesting areas this season
Nood duck Redhead		
Climemon teal		Reported by
	WOUR ORRESTANCE	Butirely ion bound 4/20/50.
PARTIES AND		CTIONS
	INSIKO	CIIONS
(1) Species:		n form, other species occurring on refuge during the in appropriate spaces. Special attention should be and National significance.
(2) First Seen:		pecies during the season concerned in the reporting s column does not apply to resident species.
(3) Peak Concentration:	The greatest number of the specie	s present in a limited interval of time.
(4) Last Seen:	The last refuge record for the sp period.	ecies during the season concerned in the reporting
(5) Young Produced:	sentative breeding areas. Brood	d based on observations and actual counts on repre- counts should be made on two or more areas aggregating imates having no basis in fact should be omitted.
(6) Total:		cies using the refuge <u>during the period</u> . This figure used for peak concentrations, depending upon the nature

Note: Only columns applicable to the reporting period should be used. It is desirable that the <u>Summaries</u> receive careful attention since are data are necessarily based an analysis of the rest of the form.

WATERFOWL
MONTHS OF J. Pry to April , 19 50 Lake Patricia REFUGE_

(June 1949)

(1) Species	(2 First Mig		(3 Peak Conc			4) rants Seen	Young	(5) Produced	(6) Total
Common Name	Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for Period
. <u>Swans</u> : Whistling swan		As present	of young pr g areas. B	oducad bas					repre- fregating
Geese: Canada goose Cackling goose	The la	r refuge r	scord for t	ne apecies	during th	a season o	once rned	in the repo	rting
Brant	- Ine St		ar of the a	becomes bre	sont in a	timited in		f tame.	
White-fronted goose			None obse	rved.					
Snow goose			umber seen.					at apenies.	
Blue goose	The Li		record for	the specie	s during t	ne season	poncerná	In the rep	orting
5. <u>Ducks</u> : Mallard	50	4/28	150	4/28-80	cional aig	spanes.	hoorer	frention show	200
Black Duck Gadwall			a birds lis		a, other s	pecies occ	arring o	n Tefuge dus	rug the
Baldpate	300	4/28	450	NOIN THUS			ĺ		500
Pintail	• 50	4/28	150	EGUISE N EST UN					200
Green-winged teal									
Blue-winged teal	150	4/28	200	**	Repo	Fied by	marata i	encomey*	250
Cinnamon teal									
Shoveller			in the state of th						
Wood duck Redhead	140	4/28	175						200
Ring-necked duck	1,50	#/ E0	710	Prin	cipal nest	ting areas	this sea	8013	200
Canvas-back	. 20	4/28	50						75
Scaup	120	4/28	200						300
Golden-eye				100 000	n many no	concentra	TAITE	-	
Buffle-head	8	4/28	15	• 41.03	a used by	nonneautra;	i one	megna autent.	15
Ruddy duck	16	4/28	16	T LOST	Waleriow	T BOWNER			20
Dadra				Pean	and to make and			1240	
George	-			1018	I waterio	al usage di	Ting per	709 7100	
	20	4/28	50	4/28-30	_				50 Form NR
4. <u>Coot</u> :	20	4/60	30	B/ 20-8U					FOITH NK

(over)

Total_Production:				Committee	
Laver and the second	20	4/25	50	Total waterfowl usage during period 1,810	Form NR-
Geese	-			Total waterfowl usage during period 1,810	
Ducks	TO		76	Peak waterfowl numbers 1,436	
Coots	. 8		16	Areas used by concentrations Entire water are	a, T
Boaup	- 100	4/80	800		200
Canvas-back,			60		
	700		742	Principal nesting areas this season	
					213
	THO	4/50		Reported by Refuge Personnel.	500
DEPOSE A A A A A A A A A A A A A A A A A A A	2.0			INSTRUCTIONS	500
	800		450		
(1) Species:	report	ing period	should be	isted on form, other species occurring on refuge during added in appropriate spaces. Special attention should local and National significance.	
(2) First Seen:				r the species during the season concerned in the report	ing
	period	, and the r		n. This column does not apply to resident species.	
(3) Peak Concentra- tion:	The gr	eatest numk	per of the	species present in a limited interval of time.	
(4) Last Seen:	The las	_	record for	the species during the season concerned in the reporti	ng
(5) Young Produced:	sentat:	ive breedin	ng areas.	produced based on observations and actual counts on rep Brood counts should be made on two or more areas aggre t. Estimates having no basis in fact should be omitted	gating
(6) Total:	may or		more than	the species using the refuge <u>during the period</u> . This f n that used for peak concentrations, depending upon the t.	

Note: Only columns applicable to the reporting period should be used. It is desirable that the <u>Summaries</u> receive careful attention since: se data are necessarily based an analysis of the rest of the form.

(1)		2) 7	(3			4)	ova gab	(5)	(6) Total
Species	FIRST MI	grants Seen	Peak Conc	entration	_Last_Mig	rants Seen	Broods	roduced Estimated	Estimated
Common Name	Number	Date	Number	Date	Number	Date	Seen	Total	for Period
		ve breedin	g areas. B	rood count		a made on	CWO OF M	ore areas ag	gregating
Swans: Whistling swan		ted number	of young pr	oduced bas	ed on obse	rvations a	nd actua	counts on	repre-
Geese:	period								
Canada goose	The la	st refuge r	scord for t	he species		e season o	phostned	in the repon	rting
Cackling goose Brant			and the				-2.171	the tile law	
White-fronted goose		None obse	or of the s	pecies pre	sent in a	limited in	terval o	f time.	
Snow goose			umber geen.	1076 -00 TO	mm goes n	or sperk r	o reards	at species.	
Blue goose							1	d in the rep	orting,
Ducks:			2						
Mallard	6 DOLL	4/10	150	4/10-20		nificance.	hoorer m	ttention sho	300
Black Duck		ition to th		ced on lor		1		n refuge dur	THE ASSE
Gadwall			10		*				20
Baldpate Pintail	. 30	4/10	50 150	4/10-50	8				50 250
Green-winged teal	• 00	2/ 10	10	4/20-30	1 2				10
Blue-winged teal	4	4/20	80		vebo	rted by	oral w*		50
Cinnamon teal						and and have filled			
Shoveller Wood duck	6	4/20	30	-					80
Redhead		vi dana	20			and an area		-	40
Ring-necked duck	A STATE OF THE STA			Prin		ing areas	ibia sas	200	
Canvas-back	. 5		20						40
Scaup Golden-eye	20	4/20	150	-1,420-143,				*-	200
Buffle-head	7	1 1 1 1 1 1	5	- YLes	s used by	concentra	Lonson	O MAYOR DAN	10
Ruddy duck		. ///	20	Later	WATERIOW	HILLIOGIA -		* 2	20
Dirope				2500	may and only			600	
Geese				Tota	l waterfor	I naage di	ring par	100 1 900 ·	
Coot; Brognorion:		or facabilities.						7 1 , 1 =	Form NR-

3-1750 (June 1949)

(over)

SUMMARIES

Total Production:							
20002 11000002011						141	Form NR-
Geese	-			Total waterfowl us	age during	period 1,080	
Ducks	_			Peak waterfowl num	bers	650	gal .
Coots				Areas used by conc	entration s r	tire water a	ree.
Scaup Solden-ove	30	4/80					200
				**			
Redhond * * * * * * * *	Ł		50	Principal nesting	areas this	season	
		F\50		a.			
				Reported	by Chesley	M. Dinkins	
		4/20	30	e/ schweet			10.
	- 06-	4/10	- Inc	NSTRUCTIONS			827.
			900	(STROUTTORS			
(2) First Seen:	given The fi	to those sp	record for	dded in appropriate spaceal and National significate species during the search This column does not appropriate spaceans.	cance.	rned in the	reporting
(3) Peak Concentra- tion:	The gr	eatest numb	er of the sp	pecies present in a limi	ted interval	of time.	
(4) Last Seen:	The la	_	record for th	ne species during the sea	ason concern	ned in the r	eporting
(5) Young Produced:	sentat	ive breedin	g areas. Br	oduced based on observations of counts should be made Estimates having no based	de on two or	more areas	aggregating
(6) Total:	may or	may not be		species using the refughat used for peak concer			

Note: Only columns applicable to the reporting period should be used. It is desirable that the <u>Summaries</u> receive careful attention since see data are necessarily based an analysis of the rest of the form.

(June 1949)

WATERFOWL
MONTHS OF day ry to April 19 60

(1) Species	(2 First Mig	rants Seen	(3) Peak Conce		(4 Last Migr		Young	(5) g Produced	(6) Total
Common Name	Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for Period
. <u>Swans</u> : Whistling swan		ed number						counts on ore areas ag	
Canada goose Cackling goose	The la	st refuge r		species	during th		pacerned	in the repo	rting
Brant White-fronted goose	The gr	natest numb	None obse	rved.	sent in a		terval o	f time.	
Snow goose		and the n						at species.	- v
Blue goose	The fi	rst refuge	record for	the specie	a during t		concerne	I in the rep	orting
Mallard Black Duck	20	4/13	100	4/11-20	arcariate.			ttention sho	
Gadwall Gadwall	2	4/20	10 1/s	4/20-50	n, other s		arring o	a refuge dur	10
Baldpate Pintail	2 20	4/20	100	4/10-20	2 /		1.		20 1 50
Green-winged teal		4/20	5 20	4/20=30				_	20
Blue-winged teal Cinnamon teal	6	1/20	20		Repo		Refuga	jointhroy*	20
Shoveller Wood duck	2	4/20	20	*					20
Redhead	Pr. vo.		10	blie	olpal nest		this sea	3011	15
Ring-necked duck Canvas-back	. 2	4/20	10						15
Scaup	10	4/20	75						200
Golden-eye Buffle-head			5	Fred	s used by		ions Mas	the meter of	6
Ruddy duck				Peak	waterfowl			200	
Geese				Tota] waterfow		LTUR has		
4. Coot:	2	4/27	20	4/27-30	l materion		mine non	544	F 50 m NR

Man a Para a salar				DOMMANIED	
Total Production:	Y 22	12/9.	50	0a-4g/w	FOOR NR-1
Geese	-			Total waterfowl usage during period	647
Ducks				Peak waterfowl numbers	396
Coots			2	Areas used by concentrations Entire wa	ter area.
gerdel-ess	100	4/20	20		2.800
COMASS-DECK * * * * * *		9/30			
			10	Principal nesting areas this season	-
			20		
			4.0	Reported by Refuge Person	
Blue-winged teal		4/10	80	Keported by seates 1919	
Green-winged teal		all min	1 42 St & 17	. 4/20-50	0
nurabase	18	4/30	200	INSTRUCTIONS	20
(1) Species:	report	ing period s	should be	sted on form, other species occurring on refu added in appropriate spaces. Special attenti ocal and National significance.	on should be
(2) First Seen:				the species during the season concerned in t. This column does not apply to resident spe	
(3) Peak Concentra- tion:	The gr	eatest numbe	er of the	species present in a limited interval of time	
(4) Last Seen:	The laperiod		cord for	the species during the season concerned in th	e repo <mark>rting</mark>
(5) Young Produced:	sentat	ive breeding	areas.	roduced based on observations and actual coun Brood counts should be made on two or more ar . Estimates having no basis in fact should b	eas aggregating
(6) Total:	may or		more than	he species using the refuge <u>during the period</u> that used for peak concentrations, depending .	

Note: Only columns applicable to the reporting period should be used. It is desirable that the <u>Summaries</u> receive careful attention since (se data are necessarily based an analysis of the rest of the form.

Pretty Rock

REFUGE_

WATERFOWL
MONTHS OF Jan ry to April , 19 50

(1) Species	(2 First Mig) rants Seen	(3 Peak Conc			4) rants Seen	Young	(5) Produced	(6) Total
Common_Name	Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for Period
l. <u>Swans</u> ; Whistling swan	Estima	ed number ve breedin		pduced bas rood count			nd actua		repro- gregating
C. Geese: Canada goose Cackling goose Brant	30		100	4/5-20		e e e e e e e e e e e e e e e e e e e	F-MEG	in the repo	160
White-fronted goose Snow goose Blue goose	25 80	4/5	50 75	This col	unn does n	ot apply t	o reside	d in the rep nt species. I time.	100 150
3. <u>Ducks:</u> Mallard	20	4/10	500	4/10-20		spaces s nificance.	becial H	ttention sho	800
Black Duck Gadwall Baldpate	2 10 35	4/20 4/20 4/20	20	4/20-80				n refuge dan	30
Pintail Green-winged teal Blue-winged teal Cinnamon teal	4	4/20	500	18	Repo	rted by	Sefue i	eracedey.	100
Shoveller Wood duck	6	4/20	50						100
Redhead Ring-necked duck	2	4/20	25	Prin	cipal nest	ing areas	this sea	aon	50
Canvas-back Scaup	50	4/20	30 300	10					50
Golden-eye Buffle-head	1	-/	5	Area	в изед рх	concentrat	lons Ope	n under ang	20
Ruddy duck				Peak		numbera		.1,1	80
4. <u>Coot</u> ; 3–1750	3	4/20	20	4/20-50	l waterfor	l usage di	ring per	lod 2,	50 Form NR

(June 1949)

Total Production:				Outhorstand	
	. 6	4/20	80	Total waterfowl usage during period 2,080	Form NR-
Geese	_			Total waterfowl usage during period	
Ducks	-			Peak waterfowl numbers 1,850	
Coots	I		9	Areas used by concentrations Open water areas.	. 10
	20		200		900
Canvas-back *	. 6	4/20	20.		60
	8		. 30	Principal nesting areas this season	-
					and the sale
	. G	4/80	- 50		180
Blue-Wanged teal	4		60	Reported by Refuge Personnel.	
Green-winged teal					
paragai paragai	70		TO 0	INSTRUCTIONS	180 180
			7 - 138 252	added in appropriate spaces. Special attention should ocal and National significance.	d be
(2) First Seen:				the species during the season concerned in the report. This column does not apply to resident species.	ing
(3) Peak Concentration:	The gr	eatest numl	ber of the	species present in a limited interval of time.	100
(4) Last Seen:	The la		record for	the species during the season concerned in the reporti	ng
(5) Young Produced:	sentat	ive breeding	ng areas.	roduced based on observations and actual counts on rep Brood counts should be made on two or more areas aggre . Estimates having no basis in fact should be omitted	gating
(6) Total:	may or		e more than	he species using the refuge <u>during the period</u> . This f that used for peak concentrations, depending upon the	

Note: Only columns applicable to the reporting period should be used. It is desirable that the <u>Summaries</u> receive careful attention since see data are necessarily based an analysis of the rest of the form.

WATERFOWL
MONTHS OF Jan My to April , 19 50

(1)	(2	CONTRACTOR STREET, SOCIAL	(3)			4)	ove' debe	(5)	(6)
Species	First Mig	rants Seen	Peak Conce	entration	_Last Mig	rants Seen	Broods	Produced Estimated	Total Estimated
Common Name	Number_	Date	Number	Date	Number	Date	Seen_	Total	for Period
. <u>Swans</u> ; Whistling swan	Estima sentat	red number Ve breeding	of young pr gareas. B	oduced bas rood count		vations a made on	id actua		repre- gregating
Canada goose Cackling goose Brant	20 Is	4/5	200	4/5-20	9/11.7 4P	4/20	pagerned		200
White-fronted goose	25 3 0	4/5 4/5	150 100	4/10-20	dan does m	ist apply t		at apecies.	150 200
Blue goose Ducks: Mallard	800	4/20	1000	4/10-20	propriate tional sign a during t	gilficance.		ttention she	1200
Black Duck Gadwall Baldpate	. 1000	ition to th	10 150 1000	4/20-30				a refuge dur	
Pintail Green-winged teal Blue-winged teal Cinnamon teal	200	4/20	10 200	6.2 (0.7) (20) (0.7)	Repo	orted by	yeznio j	etennoj*	10 300
Shoveller Wood duck Redhead	20	4/20	30 20						30
Ring-necked duck Canvas-back Scaup	30	4/20	25	Prin	cipal nest	ting areas	this sea		30 300
Golden-eye Buffle-head Ruddy duck	30	4/20	200				ions Op	or valor are	· ·
Geese Ducks				Tota		wl usage du	ring per	10d 6,20	50
1. <u>Coot</u> :	10	4/20	25	4/20-30					Form NR-1
June 1949)				(over)					

SUMMARIES

Matal Draduction:				SUMMARIES	
Total Production:	10	4/20	25	4/20-20	Form NR-
Geese	_			Total waterfowl usage during period 4,220	-80
Ducks	_			Peak waterfowl numbers	
Coots	_			Areas used by concentrations open water areas.	<i>k</i>
Searp' ();	20	4/20	200		200
Canvas-back			25		-
Redhead * * * * * * * * * * * * *			20	Principal nesting areas this season	20
ShoveMer	. 50	4/20	80		
	200		200	Reported by Refuge Personnel.	
Green-Winged teal	Milleria	a fair	20		73
DI HARAJI NATARITADO	2000	8,700	7000	INSTRUCTIONS	200
Melland	given	to those sp	ecies of l	added in appropriate spaces. Special attention should in ocal and National significance.	
(2) First Seen:				the species during the season concerned in the reporting. This column does not apply to resident species.	ng
(3) Peak Concentration:	The gr	eatest numb	er of the	species present in a limited interval of time.	180
(4) Last Seen:	The laperiod		ecord for	the species during the season concerned in the reporting	g 00
(5) Young Produced:	sentat	ive breedin	g areas.	produced based on observations and actual counts on representation of two or more areas aggregates. Estimates having no basis in fact should be omitted.	
(6) Total:	may or		more than	he species using the refuge <u>during the period</u> . This fig that used for peak concentrations, depending upon the r	

Note: Only columns applicable to the reporting period should be used. It is desirable that the <u>Summaries</u> receive careful attention since the data are necessarily based of an analysis of the rest of the form.

WATERFOWL MONTHS OF Je ary to April , 19 50

(1) Species	(2 First Mig) rants Seen	(3 Peak Conc			4) rants Seen	Young	(5) Produced	(6) Total
Common Name	_Number_	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for Period
l. <u>Swans</u> : Whistling swan		ed number		oduced bas		vations a	id actua	counts on ore areas ag	repre- gregating
C. Geese: Canada goose Cackling goose Brant	Ty 17		100	4/5-20			(e. * *	in the repo	100
White-fronted goose	- The gr		50	4/5-20	sent in a	limited in	terval o	f time.	50
Snow goose Blue goose			mber seen.					at species.	
(5) Wirst Seen.	The fi		record for	the apecia	a during t	he season	Ponde The	I in the reprise	orting
. <u>Ducks</u> : Mallard	200	4/20	300	4/20-50	propriate tional sig	spaces. S nificance.	pecial a	ttention sho	400
Black Duck Gadwall	In add		20	4/20-30		1		n refuge dun	20 20
Baldpate Pintail	500	4/20	50 500	ASTRUGITON	8				75
Green-winged teal		4/60	10	19					10
Blue-winged teal Cinnamon teal	200	4/20	200	***	Repo	rted by	. Hefter	Persomel.	300
Shoveller Wood duck	12	4/20	20						30
Redhead • • • • • Ring-necked duck	• • •		15	Prin	cipal nest	ing areas	this sea	son	20
Canvas-back			15	- •					20
Scaup Golden-eye	50	4/20	100						150
Buffle-head			5	Area	a used by	concentrat	ions Op	en number ette	10
Ruddy duck			20	Peak	waterfowl	numbers		1,665	20
Geese				Tota	l waterfor	l usage du	ring per	10d 1,940	95
4. <u>Coot</u> : Buognorrow:	6	4/20	25	4/20-50	0 24				Form NR-

(June 1949)

SUMMARIES

Total Production:					
20002 110000 02011	- 0			4/20-20 FO	rm NR-
Geese	-			Total waterfowl usage during period 1,940	
Ducks	_		50	Peak waterfowl numbers 1,455	
Coots			6	Areas used by concentrations Open water areas.	
	60		100	190	
			re		
Redhend * * * * * * * * * * * * * * * * * * *			16	Principal nesting areas this season	
Wood duck					
Shoveller	36	4/80	200		
	200	9/50		Reported by Refuge Personnel.	
	-		20	TO TO	
pintatini, , , , , ,	0.07	4,00		INSTRUCTIONS	
			50		
Mailard Ducks:	given t	those spe	ecies of lo	added in appropriate spaces. Special attention should be ocal and National significance. the species during the season concerned in the reporting	
(2) First Seen:				This column does not apply to resident species.	
(3) Peak Concentration:	The gre	atest numbe	er of the s	species present in a limited interval of time.	
(4) Last Seen:	The las		cord for t	the species during the season concerned in the reporting	
(5) Young Produced:	sentati	ve breeding	areas. B	roduced based on observations and actual counts on repre- Brood counts should be made on two or more areas aggregating Estimates having no basis in fact should be omitted.	g
(6) Total:	may or		more than	ne species using the refuge <u>during the period</u> . This figure that used for peak concentrations, depending upon the natur	

Note: Only columns applicable to the reporting period should be used. It is desirable that the <u>Summaries</u> receive careful attention since the data are necessarily based of an analysis of the rest of the form.

3-1751 Form NR-1A (Nov. 1945)

MIGRATORY BIRDS (other than waterfowl)

han waterfowl)

Months of January to April 194 50 granged Refuge Lake Ilo

									winged dor	
(1)	(2			3)	,	4)		(5)		(6)
Species	First	Seen	Peak N	umbers	Last	Seen		roductio		Total
		D 10.4	17 1	Do la c) T 1	D. A.		Total #	Total	Estimated
Common Name	Number	Date	-Number	Date	_Number	Date	Colonies	_Nests_	<u>Young</u>	<u>Number</u>
I. Water and Marsh Birds:				05-0f\à	- 2	Q\A	Ecare obs		!	
	0.4	4/5	300	4/6-15	19	1/15	8			600
Sandhill Crane	24	4/5	300	#\0=19					-	nevsA
				4/1-15	3.00	3/34	- 8			
				05-05/4	. 6	8/25				
				(2-1/4	-85	78\8	8			riogi
				1/1-9/20	2	8/4		According to the control of the cont	te Pelow	
				2/20-3/3	8	1/8		DEVENUE DE	<u> </u>	ewadi.
				00000		- M. N.		- A	-	
Loy M. Dinkting	poiso vo	Reported								
				4	INSTRUC					
U.O.A at quorg fall has .c	31 Edition		O.U. Chec		į .	!	the corre	esU	pecies:	(1)
to the birds listed on	addition		"met"	"seagull"	terms as	fereneg	blovA .T	orde		
II. Shorebirds, Gulls and	ng period	ttreq-1 e	dt gadrud		carring c	pecies oc	a Tedfo	mro1		
Terns:	Baloada	to those	navig ad	oluoda no		. Specia Groups:	te spaces	sinq "		
Killdeer Willett	1	3/24	30	4/20-30	II. Shor	Canora	· OVIIIOI I I	4910		50
Willett Franklin's Gull	75	4/15	200	4/20-30						200
Ring-Billed Gulls	13133	4/6	20	4/20-30						50
Passeri formes)		-/ -								
	, beingo	DOO HOLES	for the a	species	d for the	Jobel agn	ter Jerin	enT :	irst Seen	
								4179		
	to levior	ni belimi	L B AL JI	les presen	the spec	to Tedmun	Jaelserg	9.01 128	ecal warps	
	housened	0.000000	odt onla	species du	adt co	broass er	ulan teel	adT	ast Seen:	
	112011100110	o muchas	One Servin	n careade	0110 10.1	010001 05	MAGI VODA	. ACAR 6	11000 700	
	nd notual	vations a	тевдо по	beend besed	ubola ani	ov lo rec	num betsm	Esti	roduction	
								4		
	ing the p	efuge dur	ng the r	pectes usi	a ent lo	redmun 12	mated tot	Esti	otal;	T (3) 5
				(over)		*				-

(1)	(2)	(3)	(4)	(5)	(6)
III. <u>Doves and Pigeons</u> : Mourning dove White-winged dove	2 4/30	TORY BIRDS nan water [owl] Months of January			(Nov. 1945) Of Refu
(5) (5)	wd	(4)	(S)	(2) First S	Special (1)
IV. <u>Predaceous Birds</u> : Golden eagle	T redmut	1/1-2/2	8 1 4/1	Tedmu	12 Comeon Name
Duck hawk Horned owl Magpie Raven	None observed.	4 4/10-30 7 4/3			I. Water and Marsh
Crow Marsh Hawk Sparrow Hawk Prairie Falcon Am. Rough-Legged Hawk Showy Owl	3 3/24 1 3/25 2 3/27 1 1/6 2 1/1 2 1/6	100 4/1-15 5 4/20-30 15 4/5-20 4 1/1-2/3 6 2/20-3/6 1/6-20			300 10 20 4 10
				d by Chesley M.	Dinkins

INSTRUCTIONS

(1) Species:

(2)

Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiiformes)

II. Shorebirds, Gulls and Terns (Charadriiformes)

III. Doves and Pigeons (Columbiformes)

IV. <u>Predaceous Birds</u> (Falconiformes, Strigiformes and predaceous_ Passeriformes)

First Seen: The first refuge record for the species for the season concerned.

(3) Peak Numbers: The greatest number of the species present in a limited interval of time.

(4) Last Seen: The last refuge record for the species during the season concerned.

(5) Production: Estimated number of young produced based on observations and actual counts.

(6) Total: Estimated total number of the species using the refuge during the period concerned.

Refuge District IV Easements, as listed Months of January to April , 19/4 50 (3) (4) (1) (2) (5) (7) (6) Young Sex Density Remarks Species Removals Total Produced Ratio Number broods obs'v'd. Estimated Total For Research. For Re-stocking Estimated Hunting Pertinent information not Acres number Cover types, total per specifically requested. using acreage of habitat Common Name Bird List introductions here. Percentage Refuge LAKE ILO Phoasant dilie Management S 300 Jan., 200 in April. 1-11 to 2-F 800 Sharp-tailed Ground and blunds rone 10 Hung. Partridge | to boulden yourse HOLD BY MOOD admico fautos bas anolitavieso Phoneum pung produced, based apon o Not observed during spring. wher of y 20 Sharp-tailed Grouse nibsand svittet mesen 20 'e Hung. Partridge 20 cimarily to wild turkey, pleasants rasilqqs mmyloo shr ther species il ava LAKE PATRICIA Pheagant Estimated. 150 nation to be Sharp-tailed Grouse Hung. Partridge 30 ne report period. This m rusing the refuse during the refuge during certai ofni prijargim seoni arlq sbrid inebi nclude res LEGION LAND Phoagant None seen. Estimated. 20 ndios te method ased to determine population and area dovered in am Sharp-tailed Grouse betsauper vilsoftisers in notiserrolit in entired region solon Hung. Partridge Molean Pheasant None seen. o the period covered should be Betimated. 10 Sharp-tailed Grouse Hung. Partridge

INSTRUCTIONS

Refure District IV Expenditure as listed Months of January

Form NR-2 - UPLAND GAME BIRDS.*

(1)	SPECIES:	Use	correct	common	name.
-----	----------	-----	---------	--------	-------

- Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series

 No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
 - (3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.
 - (4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.
 - (5) REMOVALS: Indicate total number in each category removed during the report period.
 - (6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.
 - (7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

Sung. Partridge

Hone secn.

Sharp-telled Or

^{*} Only columns applicable to the period covered should be used.

Refuge District IV Easements, as listed, Months of January to April , 19/ 50

				common names	doerroo est	(1) SPECIES:
(1) Species	(2) Density	(3) Young Produced	(4) Sex Ratio	(5) Removals	(6) Total	(7) Remarks
		Number broods obs 1v1d.	Percentage	Hunting For Restocking For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
Sharp-tailed Gro	Survey method use	nlture land, bo Is listed in W gures summitted to sample areas. Indicated under	ard type symbol possible. Fi	e, etc. Stand be used there and counts on	30 10 10	Reported by farmer and observed.
Phonoant Sharp-tailed Gro	oos fautos bns anol ese sto, Include dat		habitat.	ative breding	20	(3) YOUNG PRODUCED:
WHITE LAKE Pheasant Sharp-tailed Gro	ne report periodem		1 N to 5 P	aldaliava 11 s	10	(5) REMOVALES
Hung, Partridge	rt period. This ma Puge during certain	during the repo	ng the refuge those migrat	tal number usi dent birda plu	10 Stimated to mclude res	(6) TOTAL:
osLi		specifically re	termine population not	hod used to de	indicate mer nclude oth	(7) REMARKS:
		id.	should be use	paried covered	ship to the	* Only columns applica
1619						60

Refure District W Legements, as listed, Months of January

Form NR-2 - UPLAND GAME BIRDS.*

(1)	SPECIES:	Use correct common	name.	
	(2)	(6)	(2) (3) (4) (5)	

- Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series

 No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
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 - (5) REMOVALS: Indicate total number in each category removed during the report period.
 - (6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.
 - (7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

^{*} Only columns applicable to the period covered should be used.

Refuge District IV Easements as listed. April 30, 194/50													Po.		
(1) Species	(2) Density		303		3) vals	BELAD	аовія	(4) Disposition of Fur							(5)
North as Animals	whose profit of the control of the c	rel, wn the "Mar	bas and	ton kent	LEUP LOUIS L. And	Lupa L. H.	d sel en no ersy	Share Th	rappin	ıg	. Refuge Shipped		ted	Destroyed	Total Popula-
Months won ak ak rased ac	Cover Types & Total	Acres Per	Hunting	Fur Harvest	Predator Control	For Restocking	For Research	Permit	Trappers Share	Refuge Share	Total Red Furs Ship	Refuge Income	Furs Donated		tion
Common Name	Acreage of Habitat	Animal	Ha	B 图 B B B B B B B B B B	F 8	For	Fo		5.20			. 5000	CENTRE	Furs	(2)
Muskrat Mink Coyote Skunk Badger Weasel	Take Ilo sorti coco di Lanca sparam spulst edi ao sparam spulst edi ao sparam spulst edi ao sparam spulst edi a	ed for event flowed o scept a	ribme is di fade eqvi bed	1	a maj Kpre laced ich c	ab be ad district to the at th	stail ty t to d acres acres on no	T-500	30 2	30 2	29		Non() Non	500 20 2 12 3
House Cats Beaver Cotton Tail Rabbit Jack Rabbit	phonure the general parties le arting agriculture le ndard type symbols li dware possible. Fi	hould b tas to ds, rev c. Sta to use	ioum le le le le	2 1 1	over er dan ergu over es es over es	naki dwa ng Ji kati	forma nce s sho ement	no lo set ni barias nga : soli nga : soli ng	b ald	à					2 20 50
Muskrat Mink	Hiddenwood	ho ezh	brud brud	60	bond	sed of ay ne arks.	os de Surv r Ren	#43 3-1400	60			16.72			400
Skunk Badger	ling under heading li	thegony not fal	o do alav			edmun ons q	Lado a.CA					sala	WAID	Œ (6
Jack Rabbit Cotton tail Red Fox		nuber, narket ped fur	t bis	-			ed fu umber tes tal n	igand-em t eds eds tegs yd e		: AU	I TO I	orne	92)		10 8 40 2
zeddo	One fox and one soy		rei		notal	puos	began	nous sec	agenc prim pri en		ab a				

Indicate inventory method(s) used, size of sample area(s), introductions, and any other pertinent information not specifically requested.

REMARKS: • Furs not sold to date.

1615

00

INSTRUCTIONS

Form NR-4 - SMALL MAMMALS (Include data on all species of importance in the management program; i.e., muskrats, beaver, coon, mink, coyote. Data on small rodents may be omitted except for estimated total population of each species considered in control operations.)

(1) SPECIES:

Use correct common name. Example: Striped skunk, spotted skunk, short-tailed weasel, gray squirrel, fox squirrel, white-tailed jackrabbit, etc. (Accepted common names in current use are found in the "Field Book of North American Mammals" by H. E. Anthony and the "Manual of the Vertebrate Animals of the Northeastern United States" by David Starr Jordan. "List of North American Recent Mammals" by G. S. Miller, Jr., a very good reference, is now out of print, although a revision is scheduled for publication in the near future.)

(2) DENSITY:

Applies particularly to those species considered in removal programs (public hunts, etc.) Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottom land hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.

(3) REMOVALS:

Indicate the total number under each category removed since April 30 of the previous year. Also show any removals not falling under heading listed.

(4) DISPOSITION OF FUR:

On share-trapped furs list the permit number, trapper's share, and refuge share. Indicate the number of pelts shipped to market and the total income to the refuge by species, including share-trapped furs and furs taken by Service personnel. Total number of pelts of each species destroyed because of unprimness or damaged condition, and furs donated to institutions or other agencies should be shown in the column provided.

(5) TOTAL POPULATION:

Estimated total population of each species reported on as of April 30.

REMARKS L

IELS

Indicate inventory method(s) used, size of sample area(s), introductions, and any other pertinent information not specifically requested.

Form MH-4

Covote

Redger

opeyed

RefugBistrict IV Easements as listed. April 30, 1950

(1) Species	(2) Density	da beq.h	(3) Removals				Di	(4) sposition	of Fur	18	ELECS.	32	(5)
Common Name		cres Per	nuncing Fur Harvest	Predator Control	For Restocking	For Research	Share T	Trappers' Share dd dd Refuge	Share Total Refuge Furs Shipped	Refuge Income	Furs Donated	Furs Destroyed	Total Popula- tion
Cotton Tail rabbit Jack Rabbit Muskrat Mink	Trapping permit was not on this refuge. Stewart Lake Trapping permits were it to local parties. No direct to date due to be when visiting refuges. White Lake	ssued ata of d roads	be catted a star type of the type of type	may coad coad be re cover in cor it no it no a Na a Na a otu no co unda	data prefice as a constant of the constant of	to be been to be be been to be be been to be be be be because the beautiful to be be be because the beautiful to be be been to be be because the beautiful to be because the beautiful to be be because the beautiful to be be been to be be because the beautiful to be be beautiful to be be because the beautiful to be be beautiful to be be because the beautiful to be be beautiful to be be below the beautiful to be be beautiful to be be beautiful to be be because the beautiful to be be be beautiful to be be below to be be be below to be be below to be be below to be be below to be be be	None 44 & 42 3-1400	Applies numbers throw the in indica		181	VOM	PSE	40 10 12 10 20 8 4 14 50 10
Skunk Cotton Tail Rabbit Jack Rabbit Muskrat Mink Weasel	rapping permit issued to local Permit issued to local	redmur te marke apped fu	diagonal dia	t the sall sall sall sall sall sall sall sal	show of pa no lust mber cond	salA sed function and fall and fall and be	46- i-1400	ada, de s soiba soiba soute domini locega	OF FIR	OTTE	PAR	O	8 10 10 150 15 6

Indicate inventory method(s) used, size of sample area(s), introductions any other pertinent information not specifically requested.

REMARKS:

1615

00

INSTRUCTIONS

Form NR-4 - SMALL MAMMAIS (Include data on all species of importance in the management program; i.e., muskrats, beaver, coon, mink, coyote. Data on small rodents may be omitted except for estimated total population of each species considered in control operations.)

(1) SPECIES:

Use correct common name. Example: Striped skunk, spotted skunk, short-tailed weasel, gray squirrel, fox squirrel, white-tailed jackrabbit, etc. (Accepted common names in current use are found in the "Field Book of North American Mammals" by H. E. Anthony and the "Manual of the Vertebrate Animals of the Northeastern United States" by David Starr Jordan. "List of North American Recent Mammals" by G. S. Miller, Jr., a very good reference, is now out of print, although a revision is scheduled for publication in the near future.)

(2) DENSITY:

Applies particularly to those species considered in removal programs (public hunts, etc.) Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottom land hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.

(3) REMOVALS:

Indicate the total number under each category removed since April 30 of the previous year. Also show any removals not falling under heading listed.

(4) DISPOSITION OF FUR:

On share-trapped furs list the permit number, trapper's share, and refuge share. Indicate the number of pelts shipped to market and the total income to the refuge by species, including share-trapped furs and furs taken by Service personnel. Total number of pelts of each species destroyed because of unprimness or damaged condition, and furs donated to institutions or other agencies should be shown in the column provided.

(5) TOTAL POPULATION:

Carl V. Bernard ch

Estimated total population of each species reported on as of April 30.

REMARKSE

Indicate inventory method(s) used, size of sample area(s), introductions, and any other pertinent information not specifically requested.

Year ending April 30, 1950 Refuge District IV Easements as listed.

(1) Species					(3) vals		esci mon n	D	(lapo si t	4) ion of	Fure	es LES:	SPECI	(5) Total
Common Name	Cover Types & Total Acreage of Habitat	Acres Per Animal	Hunting	Harvest	Predator Control *	For Restocking	For Re-	Share Permit Number	Trappers Share	Refuge on share	Total Refuge Furs Shipped	Furs Donated	Fure Destroyed	Popula- tion
Muskrat Mink Weasel House Cat Cottom Tail Rabbit Jack Rabbit	Legion Labe Two 5-1400 trapping parts	or pa d		48 3	to a control of the c	sed a	th series in series in series in ty in t	#40 441 3-2400	48 - 5 - 14 - 1					150 6 6 4 10
Muskrat Mink Skunk Badger Weasel		to be use	Lucia resid bas	a c la sed sed	od u od u ande	no be to be to mo be to mo be 'ka.	nent s baa Nurve Rema sl n:	#47- 3-1400				LS:	YOMES	50 6 6 2 4
Animal fuge share. by Service	e by Service Fredatory ier headingslisted. Rapper's share, and re including furs teken es destroyed because of institutions or other	the refu ling un umber, market ch spect	si ti	aren a no per	ay to	ing a list list pel for o tion.	ow as	Also si Also si the num Al. Tots damaged	nter. abar atcat arsonn ass or	g g	[E 0	OITE	DI SPO	(al)
* List removals by	Predator Animal Hunte	r		/ICIns				50000 5	10011	g ,	MOTTA	ROPUR	LATOT	(5)

REMARKS:

Indicate inventory method(s) used, size of sample area(s), introductions, and any other pertinent information not specifically requested.

Carl V. Fermanich Reported by

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Maink

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Ist removels by Predator Animal Hunter

INSTRUCTIONS

Form NR-4 - SMALL MAMMALS (Include data on all species of importance in the management program; i. e., muskrats, beaver, coon, mink, coyote. Data on small rodents may be omitted except for estimated total population of each species considered in control operations.)

(1) SPECIES:

Use correct common name. Example: Striped skunk, spotted skunk, shorttailed weasel, gray squirrel, fox squirrel, white-tailed jackrabbit, etc.

(Accepted common names in current use are found in the "Field Book of North
American Mammals" by H. E. Anthony and the "Manual of the Vertebrate Animals
of the Northeastern United States" by David Starr Jordan.)

Applies particularly to those species considered in removal programs. Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottom land hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.

Indicate the total number under each category removed since April 30 of the previous year, including any taken on the refuge by Service Predatory Animal Hunter. Also show any removals not falling under headingslisted.

(4) DISPOSITION OF FUR: On share-trapped furs list the permit number, trapper's share, and refuge share. Indicate the number of pelts shipped to market, including furs taken by Service personnel. Total number of pelts of each species destroyed because of unprimeness or damaged condition, and furs donated to institutions or other agencies should be shown in the column provided.

(5) TOTAL POPULATION: Estimated total population of each species reported on as of April 30.

Indicate inventory method(s) used, size of sample area(s), introductions, and any other pertinent information not specifically requested.

Reported by Carl V. Formanich

(2)

DENSITY:

REMARKS:

EASEMENT REFUGES OF DISTRICT 4a

Clearwater National Wildlife Refuge:

Heavy snow or soft, muddy roads have not permitted us to make an inspection of this refuge this spring. Lake areas in the immediate vicinity of this refuge have however remained covered with ice and snow through the month of April and it is our belief that few migratory birds have been able to make use of the lake to date.

Shell Lake National Wildlife Refuge.

As in the case of Clearwater, we again have not been able to make an inspection of this refuge. Information obtained from individuals acquainted with the refuge indicate that the lake is partially open and that a few migratory birds have made use of it. Some reposting of refuge signs and markers needs to be accomplished this spring.

Zahl National Wildlife Refuge.

This refuge was inspected on April 4 to determine the amount of run-off waters being received into the refuge and if the Badger damaged dike was receiving any damage from highwater. Snow received in the Zahl area during the winter months was much below normal and as of April 4 little water had entered the lake. The portion of the lake below the highway was filled to only 25% of capacity and this portion of the lake was entirely frozen over at the time of inspection. Little snow remained on the ground, but late April snow may assist to some extent in bringing the level of this lake up to some extent. The dike has received no further damage and repairs to it will be accomplished in the very near future.

At the time of inspection no migratory birds were using the refuge but we do believe the refuge received fair use the later part of April. WATERFOWL

REFUGE Clearwater Nat'l Wildlife . Auge MONTHS OF ____ to _April _, 19_50

(1) Species	(2 First Mig		(3 Peak Conce		LIVE AND STREET	4) rants Seen	Young	(5) Produced	(6) Total
Common Name	Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for Period
1. <u>Swans</u> : Whistling swan	Estimat	ed number	of young pr	pdaced bas rood beunt					
2. Geese: Canada goose Cackling goose	The las	t refuge r	scord for t	re ebecrea	during th	e season o	onoernad		rting
Brant White-fronted goose	- The gre	atest numb	er of the s	pectes pre	sent in a	limited in	terval o		er 7 66
Snow goose Blue goose			racord for umber seen.						orting
3. <u>Ducks</u> : Mallard Black Duck Gadwall	reports	ng period	e birds lis should be a ecles of lo	dded in ap	propriate	apaces. S		n refuge dur ttention Sho	
Baldpate Pintail	Frozen	ver at end	of period.	None obse	rved.	-			
Green-winged teal Blue-winged teal Cinnamon teal		4/2			Repo	rted by			
Shoveller Wood duck		471.0							7/2
Redhead Ring-necked duck	right also de la			Prin.	cipal nest	ing areas	this sea		150
Canvas-back Scaup Golden-eye			7						
Buffle-head Ruddy duck					waterfowl s used by	concentrat	ions	0	
Geese						l usage du	Lyug ber		
4. Coot:		0.37							Form NR-1

3-1750 (June 1949)

SUMMARIES

Total Production:	FORM WE
Geese	
Ducks	Peak waterfowl numbers
Coots	Areas used by concentrations
	Principal nesting areas this season
	Reported by
Birldpace of a second	INSTRUCTIONS
(1) Species:	In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance.
(2) First Seen:	The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.
(3) Peak Concentration:	The greatest number of the species present in a limited interval of time.
(4) Last Seen:	The last refuge record for the species during the season concerned in the reporting period.
(5) Young Produced:	Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
(6) Total:	Estimated total number of the species using the refuge <u>during the period</u> . This figure may or may not be more than that used for peak concentrations, depending upon the nature of the migrational movement.

Note: Only columns applicable to the reporting period should be used. It is desirable that the <u>Summaries</u> receive careful attention since the data are necessarily based in an analysis of the rest of the form.

Shell lake Suprou aruce

REFUGE

(June 1949)

MONTHS OF Jan y to April

(1)(2) (3) (5) (4) (6) Peak Concentration Total Species First Migrants Seen Last Migrants Seen Young Produced Broods Estimated Estimated Common Name Number Number Seen Total for Period Date Date Number Date te eress aggregating Bentative breeding Loog gonur a made on 1. Swans: of young produced based on observations and actua Estimated number -eader on repre-Whistling swan 2. Geese: The last refuge recolled for during the season concerned in the reporting 4/20-21 200 Canada goose Cackling goose Brant The greatest number 500 he sant in a Limited interval of time. 4/20-21 250 White-fronted goose Snow goose and the number seen umn does not apply to resident species. Blue goose ne species during the season concerned in the reporting The first refuge record for 3. Ducks: reporting period ho joo be Jonal Bigalficance 4/20-80 150 Mallard ropriate spaces. Special attention should be , other species occurring on refuge during the Black Duck ition to the TH SIGO Gadwall 20 15 Baldpate . . . 200 150 Pintail Green-winged teal 20 10 Blue-winged teal Reported by Pa STATE LALEGEDY Cinnamon teal 25 Shoveller . . Wood duck Redhead Principal nesting areas this season. Ring-necked duck 50 Canvas-back . . . 30 150 100 Scaup Golden-eye Areas used by concentrations when baser are in. Buffle-head Ruddy duck waterfowl numbers A wateriosi usage during period TOTS 4 30 4. Coot: Noogne from: 20 Form NR-1 🐸 3-1750

SUMMARIES

Total Production:			Form MR-
Geese		Total waterfowl usage during period	1,105
Ducks		Peak waterfowl numbers	805
Coots		Areas used by concentrations open wat	er areas.
garab	700		790
Wood duck Redhead : King-necked duck Banvne-pack , , , ,	20	Principal nesting areas this season	
Green-winged teal Blue-winged teal Cinnamon teal Shoveller * * * *	10	Reported by Des Lacs Refuge	Personnel
Baldpate * * * * * * *	INST	RUCTIONS	500
(1) Species:	In addition to the birds listed reporting period should be addediven to those species of local	on form, other species occurring on refued in appropriate spaces. Special attentiand and National significance.	ge during the
(2) First Seen:		species during the season concerned in this column does not apply to resident spe	
(3) Peak Concentration:	The greatest number of the spec	ies present in a limited interval of time	3990
(4) Last Seen:	The last refuge record for the period.	species during the season concerned in th	e reporting
(5) Young Produced:	sentative breeding areas. Broo	ced based on observations and actual cound counts should be made on two or more are stimates having no basis in fact should be	eas aggregating
(6) Total:		pecies using the refuge <u>during the period</u> t used for peak concentrations, depending	

Note: Only columns applicable to the reporting period should be used. It is desirable that the <u>Summaries</u> receive careful attention since the data are necessarily based of an analysis of the rest of the form.

REFUGE Lake Zahl

(June 1949)

WATERFOWL MONTHS OF Jan y to April , 19 50

(1) Species	(2) First Migrants Se	een Peak Conc	s) centration	Last Mig	1) rants Seen	Young	(5) g Produced	(6) Total
Common Name	Number Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for Period
l. <u>Swans</u> : Whistling swan	Estimated numbers sentative breed						L counts on bre areas ag	repre- gregating
. Geese: Canada goose Cackling goose	The last refug						in the repo	400
Brant White-fronted goose Snow goose	period; and the			amn does n			ot species. F time.	400
Blue goose	The first refu							briing
5. <u>Ducks</u> : Mallard Black Duck Gadwall Baldpate	In addition to reporting peri given to those	10	ted on for		mnades S	handal a	n refuge dun	15 20
Pintail Green-winged teal Blue-winged teal Cinnamon teal		30 30	NSTRUCTION	Repo	cted by B	e less	Wings Perso	
Shoveller Wood duck Redhead • • • • • Ring-necked duck	• • • • • •	. 20	Prin	cipal nest	ing areas	this sea	son	50
Canvas-back Scaup Golden-eye	V. A.	160						200 10
Buffle-head Ruddy duck		6		waterfowl s used by		tons Ope	1,568 A water area	10
. Coot: Baogneeron:		50	Tota	l waterfow	l usage du	ring per		150 Form NR

SUMMARIES

Total Production:	FOUNTHEEN
Geese	Total waterfowl usage during period 1,835
Ducks	Peak waterfowl numbers
Coots	Areas used by concentrations open water areas.
	700 a 300
Shoveller Wood duok Redhead • • • • • • • • • • • • • • • • • • •	Principal nesting areas this season
Blue-vinged teal Cinnamon teal	Reported by Des Lacs Refuge Personnel.
Green-winged teal	
Baldpate	INSTRUCTIONS
(1) Species:	In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance.
(2) First Seen:	The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.
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(6) Total:	Estimated total number of the species using the refuge <u>during the period</u> . This figure may or may not be more than that used for peak concentrations, depending upon the nature of the migrational movement.

Note: Only columns applicable to the reporting period should be used. It is desirable that the <u>Summaries</u> receive careful attention since the data are necessarily based of an analysis of the rest of the form.

SMALL MAMMALS

Easements 4a

Indicate inventory method(s) used, size of sample area(s), introductions, and

any other pertinent information not specifically requested.

Refuge

i. im:	in the management progre		of impo	selbe	ige II	в по	stab sbul	(Inc	MAMMALS	JAME	B - 41-	ITA -NR.	Fo	
(1) Species					gs no	Be lo	Disposition of Furs					92 (e \ '	(5) otal
of North	and in the "Flat Book and in the Wartebra	ultrel, e are fo	rent uer	H	mos /	gra non n	Share	Trap	ping	Refuge	Donated	ಕ್ಷ		opula-
	Cover Types & Total Acreage of Habitat	Acres Per Animal	Hunting Fur	Predator Control	For Restocking	For Re-	Permit Number	Trapper	Refuge	Total R. Furs Sh	Furs Do	Furs Destroyed	t (S)	ion
Zahl Nat'l Wildlife Muskrat Nink	Refuge:	lemine t mort t	rea per tatamen type f	in ac	beard bear dose	ique ferq ni es	3-50	Denet	report	T/ =//	to on	ZIMBOV	als.)	100
Skunk Coyote Badger Weasel	as significant change to	deoxe l historia e t as doo z sboow	repuate er type of to m	n dud	types tion ation	n nol	informat res of c estred i Les: sp	this a this b chi a distribution the chi						20 2 40 5
	dlife Refuge:	etc. S ald be u ervation	refile, 7 sho ual obs	es No n act	Seri	s, sh gemen be b Sur	8-49	A STATE OF THE PARTY OF THE PAR	port t	o dat	on o	COMOVE	ls)	50 15
Skunk Weasel	Thur out heren		ns less			er Re	ate the	indic			OVALS	RE	(3	10 8
Clearwater Nat'l Wil Muskrat Mink	besettentbash zabne	n the re	takem o	Acome Aus	entbu eny eny	ahow ahow	5-49	(No r	port t				ls)	20 15 8
Weasel apivase vd-a	trapper's share, and it, including fors tak ectes destroyed because	to mark	baggina lo alla	elts c to	i dan	laj	ate the	Indic	: FUR	0 иоз	1180	a Iu		2
* List removals by	Predator Animal Hunter	. 56	biv riq	nmulo	the c	n in	toda ed 1	Luoda	:40	MAJUS	G nessa	202	(5)	

Reported by Carl V. Fermanich

Year ending April 30, 1950

4

Year ending April 30.

form NR-4 (June 1945)

Form NR-4 - SMALL MAMMALS (Include data on all species of importance in the management program; i. e., muskrats, beaver, coon, mink, coyote. Data on small rodents may be omitted except for estimated total population of each species considered in control operations.)

(1) SPECIES:

Use correct common name. Example: Striped skunk, spotted skunk, short-tailed weasel, gray squirrel, fox squirrel, white-tailed jackrabbit, etc. (Accepted common names in current use are found in the "Field Book of North American Mammals" by H. E. Anthony and the "Manual of the Vertebrate Animals of the Northeastern United States" by David Starr Jordan.)

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Applies particularly to those species considered in removal programs. Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottom land hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.

(3) REMOVALS:

Indicate the total number under each category removed since April 30 of the previous year, including any taken on the refuge by Service Predatory Animal Hunter. Also show any removals not falling under headingslisted.

(4) DISPOSITION OF FUR:

ort to date on memorals

On share-trapped furs list the permit number, trapper's share, and refuge share. Indicate the number of pelts shipped to market, including furs taken by Service personnel. Total number of pelts of each species destroyed because of unprimeness or damaged condition, and furs donated to institutions or other agencies should be shown in the column provided.

(5) TOTAL POPULATION:

Carl V. Fermanich

Estimated total population of each species reported on as of April 30.

REMARKS:

Indicate inventory method(s) used, size of sample area(s), introductions, and any other pertinent information not specifically requested.

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